Form 3160-3 (February 2005)  UNITED STATES			FORM APPROV OMB No. 1004-0 Expires March 31	)137
DEPARTMENT OF THE DEPARTMENT OF THE DEPARTMENT OF LAND MAN			U-0284-A	
APPLICATION FOR PERMIT TO			6. If Indian, Allotee or Trib	oe Name
la. Type of work:	ER		7 If Unit or CA Agreement, CHAPITA WELLS	
lb. Type of Well: Oil Well Gas Well Other	✓ Single Zone Multip	ole Zone	8. Lease Name and Well No.  CHAPITA WELLS UNIT 1041-22	
2. Name of Operator EOG RESOURCES, INC.			9. API Well No. 43047-3	
3a. Address P.O. Box 1815 Vernal, UT 84078  3b. Phone No. (include area code) 435-781-9111			10. Field and Pool, or Exploratory NATURAL BUTTES	
4. Location of Well (Report location clearly and in accordance with an	11. Sec., T. R. M. or Blk. and	Survey or Area		
At surface 1585 FNL 240 FWL (SW/NW) 40.0	24383 LAT 109.483653 LON 40.02.4 44.6		SEC. 22, T9S, R22E	SI D P.M
At proposed prod. zone SAME 44314384	SEC. 22, 195, R22E	S.L.B.&W		
14. Distance in miles and direction from nearest town or post office*  48.8 MILES SOUTH OF VERNAL, UTAH	-109.433 <u>95</u> 8		12. County or Parish UINTAH	13. State UT
15. Distance from proposed* 240' location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No. of acres in lease		g Unit dedicated to this well	
18. Distance from proposed location* to nearest well, drilling, completed,	19. Proposed Depth	20. BLM/I	BIA Bond No. on file	
to nearest well, drilling, completed, applied for, on this lease, ft.	9600'	NM 2	308	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 4882' GL	22. Approximate date work will sta	rt*	23. Estimated duration 45 DAYS	
	24. Attachments			
The following, completed in accordance with the requirements of Onsho	re Oil and Gas Order No.1, must be a	ttached to th	is form:	
<ol> <li>Well plat certified by a registered surveyor.</li> <li>A Drilling Plan.</li> <li>A Surface Use Plan (if the location is on National Forest System</li> </ol>	Item 20 above).	•	ns unless covered by an existin	g bond on file (see
SUPO must be filed with the appropriate Forest Service Office).	6. Such other site BLM.	specific info	ormation and/or plans as may b	e required by the

25. Signature	Name (Printed Typed)	Date
January My Douling	Kaylene R. Gardner	05/03/2006
Title Regulatory Assistant		
Approved by (Signature)	Name (Printed Typed)	Date
Troplated III	BRADLEY G. HILL	05-06-06
Title	ENVIRONMENTAL MANAGER	
Application approval does not warrant or certify that the approval	olicant holds legal or equitable title to those rights in the subject lease	which would entitle the applicant to

conduct operations thereon. Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

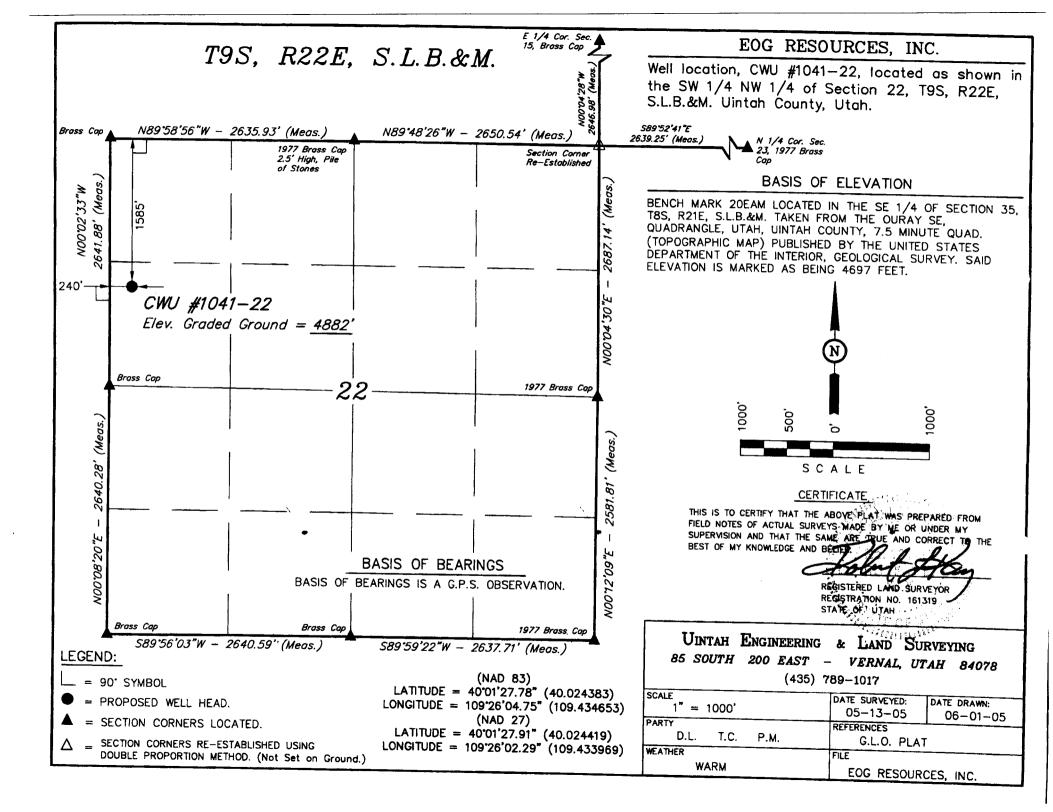
\*(Instructions on page 2)

Federal Approval of this Action is Necessary

RECEIVED

MAY 0 5 2006

DIV. OF OIL, GAS & MINING



## CHAPITA WELLS UNIT 1041-22 SW/NW, SEC. 22, T9S, R22E, S.L.B.&M.. UINTAH COUNTY, UTAH

#### 1. & 2. ESTIMATED TOPS & ANTICIPATED OIL, GAS, & WATER ZONES:

FORMATION	DEPTH
Green River FM	1,703'
Wasatch	4,759'
North Horn	6,634'
Island	7,140'
KMV Price River	7,308'
KMV Price River Middle	8,126'
KMV Price River Lower	8,923'
Sego	9,396'

Estimated TD: 9,600' or 200'± below Sego top

Anticipated BHP: 5,240 Psig

- 1. Fresh Waters may exist in the upper, approximately 1,000 ft  $\pm$  of the Green River Formation, with top at about 2,000 ft  $\pm$ .
- 2. Cement isolation is installed to surface of the well isolating all zones by cement.

#### 3. PRESSURE CONTROL EQUIPMENT:

Production Hole – 5000 Psig

(KB)

BOP schematic diagrams attached.

DATING EACTOR

#### 4. CASING PROGRAM:

							<u>KA</u>	TING FACTOR	<u> </u>
	<b>HOLE SIZE</b>	INTERVAL	<b>SIZE</b>	<b>WEIGHT</b>	<b>GRADE</b>	<b>THREAD</b>	<b>COLLAPSE</b>	E /BURST/ TEN	SILE
Conducto	r: 17 ½"	0' - 45'	13 3/8"	48.0#	H-40	STC	770 PSI	1730 PSI 322	,000#
Surface	12-1/4"	$45' - 2{,}300'KB \pm$	9-5/8"	36.0#	J-55	STC	2020 PSI	3520 Psi 394	1,000#
Production	n: 7-7/8"	$2,300' \pm - TD$	4-1/2"	11.6#	N-80	LTC	6350 PSI	7780 Psi 223	3,000#

Note: 12-1/4" surface hole will be drilled to a total depth of 200'± below the base of the Green River lost circulation zone and cased w/9-5/8" as shown to that depth. Drilled depth may be shallower or deeper than the 2300' shown above depending on the actual depth of the loss zone. All casing will be new or inspected.

## 5. Float Equipment:

#### Surface Hole Procedure (0'- 2300'±)

Guide Shoe

Insert Float Collar (PDC drillable)

Centralizers: 1-5' above shoe, top of its. #2 and #3 then every 5<sup>th</sup> joint to surface. (15 total)

8 point plan-EOG 1 5/3/2006

## CHAPITA WELLS UNIT 1041-22 SW/NW, SEC. 22, T9S, R22E, S.L.B.&M.. UINTAH COUNTY, UTAH

Float Equipment: (Cont'd)

#### Production Hole Procedure (2300'± - TD):

Float shoe, 1 joint casing, float collar and balance of casing to surface. 4-1/2", 11.6#, N-80 or equivalent marker collars or short casing joints to be placed at top of Price River and 400' above top of Wasatch. Centralizers to be placed 5' above shoe on joint #1, top of joint #2, and every 2nd joint to 400' above Wasatch Island top. (30± total). Thread lock float shoe, top and bottom of float collar, and top of 2<sup>nd</sup> joint.

### 6. MUD PROGRAM

#### Surface Hole Procedure (Surface - 2300'±):

Air/air mist or aerated water.

<u>Production Hole Procedure (2300' $\pm$  - TD):</u> Anticipated mud weight 9.5 – 10.5 ppg depending on actual wellbore conditions encountered while drilling.

2300'±-TD A closed mud system will be utilized. A bentonite gelled water mud system will be used to control viscosity w/PHPA polymer used for supplemental viscosity and clay encapsulation/inhibition. Water loss will be maintained at <15cc's using white starch or PAC. Bactericides will be used as needed. Anticipated pH will range from 9.0-10.0. Mud weight will be adjusted as necessary for well control. Deflocculants/thinners will be used as necessary to maintain mud quality. LCM sweeps will be utilized as necessary to control lost circulation and mud loss. CO2 contamination, if encountered, will be treated with lime and gypsum.

### 7. VARIANCE REQUESTS:

Reference: Onshore Oil and Gas Order No. 2 – Item E: Special Drilling Operations

EOG Resources, Inc. requests a variance to regulations requiring the blooie line to be 100' in length. Due to reduce location excavation, the blooie line will be approximately 75' in length

#### 8. EVALUATION PROGRAM:

**Logs:** Mud log from base of surface casing to TD.

Cased-hole Logs: Cased-hole logs will be run in lieu of open-hole logs consisting of the following:

Cement Bond / Casing Collar Locator and Pulsed Neutron

## CHAPITA WELLS UNIT 1041-22 SW/NW, SEC. 22, T9S, R22E, S.L.B.&M.. UINTAH COUNTY, UTAH

## 9. CEMENT PROGRAM:

## Surface Hole Procedure (Surface - 2300'±):

Lead: Class "G" cement with 16% Gel, 10 #/sx Gilsonite, 3% Salt, 2% CaCI<sub>2</sub>, 3 lb/sx GR3 ½ #/sx

Flocele mixed at 11 ppg, 3.82 ft<sup>3</sup>/sk. yield, 23 gps water.

Tail: Class "G" cement with 2% CaCl<sub>2</sub>, ½#/sk Flocele mixed at 15.6 ppg, 1.18 ft<sup>3</sup>/sk., 5.2 gps

water.

Top Out: As necessary with Class "G" cement with 2% CaCI<sub>2</sub>, ¼#/sk Flocele mixed at 15.6 ppg, 1.18

ft<sup>3</sup>/sk., 5.2 gps water.

Note: Cement volumes will be calculated to bring lead cement to surface and tail cement to

500'above the casing shoe.

#### Production Hole Procedure (2300'± - TD)

Lead: 142 sks: 35:65 Poz "G" w/4% D20 (Bentonite), 2% D174 (Extender), 0.2% D65

(Dispersant), 0.2% D46 (Antifoam), 0.75% D112 (Fluid Loss Additive), 0.200% D13 (Retarder), 0.25 pps D29 (cello flakes) mixed at 13.0 ppg, 1.75 ft<sup>3</sup>/sk., 9.19

gps water.

**Tail:** 925 sks: 50:50 Poz "G" w/ 2% D20 (Bentonite), 0.1% D46 (Antifoam), 0.075% D13

(Retarder), 0.2% D167 (Fluid Loss Additive), 0.2% D65 (Dispersant), mixed at

14.1 ppg,  $1.28 \text{ ft}^3/\text{sk.}$ , 5.9gps water.

**Note**: The above number of sacks is based on gauge-hole calculation.

Lead volume to be calculated to bring cement to 200'± above 9-5/8" casing shoe. Tail volume to be calculated to bring cement to 400'± above top of Wasatch.

Final Cement volumes will be based upon gauge-hole plus 45% excess.

## 10. ABNORMAL CONDITIONS:

## Surface Hole (Surface - 2300'±):

Lost circulation

#### Production Hole (2300'± - TD):

Sloughing shales, lost circulation and key seat development are possible in the Wasatch Formation.

## CHAPITA WELLS UNIT 1041-22 SW/NW, SEC. 22, T9S, R22E, S.L.B.&M.. UINTAH COUNTY, UTAH

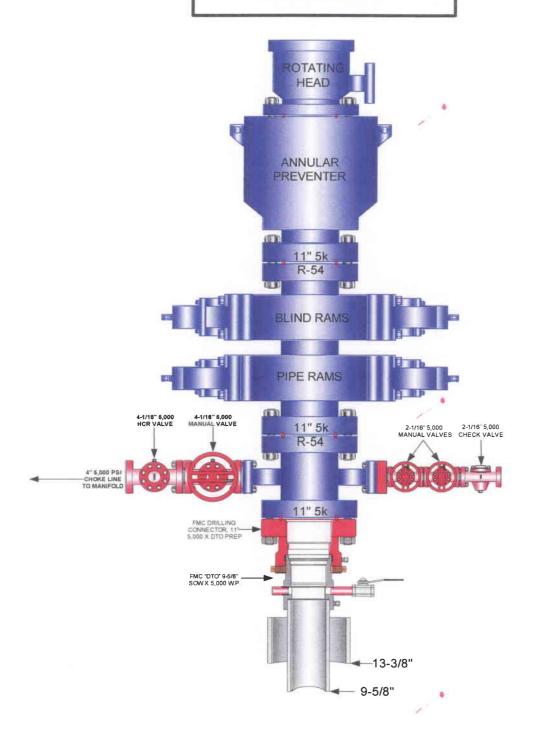
## 11. STANDARD REQUIRED EQUIPMENT:

- A. Choke Manifold
- B. Upper and Lower Kelly Cock
- C. Stabbing Valve
- D. Visual Mud Monitoring

### 12. HAZARDOUS CHEMICALS:

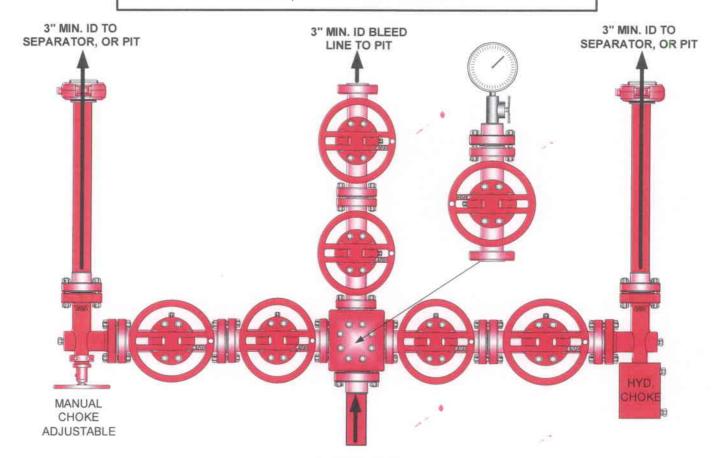
No chemicals subject to reporting under SARA title III in an amount equal to or greater than 10,000 pounds will be used, produced, stored, transported, or disposed of annually in association with the drilling of this well. Furthermore, no extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities, will be used, produced, stored, transported, or disposed of in association with the drilling of this well.

(Attachment: BOP Schematic Diagram)



# EOG RESOURCES CHOKE MANIFOLD CONFIGURATION W/ 5,000 PSI WP VALVES

PAGE 2 0F



4" 5,000 PSI CHOKE LINE FROM HCR VALVE

## **Testing Procedure:**

- 1. BOP will be tested with a professional tester to conform to Onshore Order #2.
- 2. Blind and Pipe rams will be tested to rated working pressure, 5,000 psi.
- 3. Annular Preventer will be tested to 50% working pressure, 2,500 psi. Casing will be tested to 0.22 psi / ft. or 1,500 psi. Not to exceed 70% of burst strength, whichever is greater.
- 4. All lines subject to well pressure will be tested to the same pressure as blind and pipe rams.
- 5. All BOPE specifications and configurations will meet Onshore Order #2 requirements.



## CHAPITA WELLS UNIT 1041-22 SW/NW, Section 22, T9S, R22E Uintah County, Utah

## SURFACE USE PLAN

## **NOTIFICATION REQUIREMENTS**

Location Construction: Forty-eight (48) hours prior to construction of location and access

roads.

Location Completion: Prior to moving on the drilling rig.

Spud Notice: At least twenty-four (24) hours prior to spudding the well.

Casing String and Twenty-fo

Cementing:

Twenty-four (24) hours prior to running casing and cementing

all casing strings.

BOP and related

**Equipment Tests:** 

Twenty-four (24) hours prior to running casing and tests.

First Production Notice: Within five (5) business days after new well begins or production

resumes after well has been off production for more than ninety (90)

days.

For more specific details on notification requirements, please check the Conditions of Approval for Notice to Drill and Surface Use Program.

The well pad is approximately 325 feet long with a 246-foot width, containing 1.84 acres more or less. New surface disturbance associated with access road and the well pad is estimated to be approximately 1.84 acres.

#### 1. EXISTING ROADS:

- A. See attached Wellsite Plats showing directional reference stakes on location, and attached TOPO Map "B" showing access to location from existing roads.
- B. The proposed well site is located approximately 50.3 miles south of Vernal, Utah See attached TOPO Map "A".
- C. Refer to attached Topographic Map "A" showing labeled access route to location.
- D. Existing roads will be maintained and repaired as necessary.

#### 2. PLANNED ACCESS ROAD:

No new access road will be required. See Topo "B"

## 3. LOCATION OF EXISTING WELLS WITHIN A ONE-MILE RADIUS:

- A. Abandoned Wells 6\*
- B. Producing Wells 55\*
- C. Shut-in Wells 2\*

(See attached TOPO map "C" for the location of wells within a one-mile radius.)

## 4. LOCATION OF EXISTING AND/OR PROPOSED PRODUCTION FACILITIES:

#### A. On Well Pad

- 1. Well is located on existing Chapita Wells Unit 237-22 location.
- 2. Production facilities will be set on location if the well is successfully completed for production. Facilities will consist of wellhead valves, combo separator-dehy unit with meter, two (2) 400 BBL vertical tanks and attaching piping.
- 3. Gas gathering lines A 4" gathering line will be buried from dehy to the edge of the location.

#### B. Off Well Pad

- 1. Proposed location of attendant off pad flowlines shall be flagged prior to archaeological clearance.
- 2. Protective measures and devices for livestock and wildlife will be taken and /or installed where required.

If storage facilities/tank batteries are constructed on this lease, the facility/battery or the well pad shall be surrounded by a containment dike of sufficient capacity to contain, at a minimum, the entire contents of the largest tank within the facility/battery, unless more stringent protective requirements are deemed necessary by the authorized officer.

All permanent (on site for six months or longer) structures constructed or installed (including pumping units) will be painted a flat, non-reflective, earthtone color to match one of the standard environmental colors, as determined by the Rocky Mountain Five State Interagency Committee. All facilities will be painted within 6 months of installation. All existing facilities will be painted with Carlsbad Canyon. Facilities required to comply with O.S.H.A. (Occupational Safety and Health Act) will be excluded.

#### 5. LOCATION AND TYPE OF WATER SUPPLY:

- A. Water supply will be from Ouray Municipal Water Plant at Ouray, Utah, and/ or Target Trucking Inc.'s water source in the SW/SW. Sec 35, T9S, R22E Uintah County, Utah (State Water Right # 49-1501. Water will be hauled by a licensed trucking company.
- B. Water will be hauled by a licensed trucking company.
- C. No water well will be drilled on lease.

#### 6. Source of Construction Materials:

- A. All construction material for this location and access road will be of native borrow and soil accumulated during the construction of the location.
- B. No mineral materials will be required.

#### 7. METHODS OF HANDLING WASTE DISPOSAL:

#### A. METHODS AND LOCATION

- 1. Cuttings will be confined in the reserve pit.
- 2. A portable toilet will be provided for human waste during the drilling and completion of the well. Disposal will be at the Vernal sewage disposal plant.
- 3. Burning will not be allowed. Trash and other waste material will be contained in a wire mesh cage and disposed of at the Uintah County Landfill.
- 4. Produced wastewater will be confined to a lined pit or storage tank for a period not to exceed 90 days after initial production. After the 90 day period, the produced water will be contained in a tank on location and then disposed of at one of the following three locations: Natural Buttes Unit 21-20B SWD, Ace Disposal, or EOG Resources, Inc. drilling operations (Chapita Wells Unit, Natural Buttes Unit & Stagecoach Unit).

- 5. All chemicals will be disposed of at an authorized disposal site. Drip pans and absorbent pads will be used on the drilling rig to avoid leakage of oil to the pit.
- B. Water from drilling fluids and recovered during testing operations will be disposed of by either evaporating in the reserve pit or by removed and disposed of at an authorized disposal site. Introduction of well bore hydrocarbons to the reserve pit will be avoided by flaring them off in the flare pit at the time of recovery.

The reserve pit will be constructed so as not to leak, break, or allow discharge. If the reserve pit requires padding prior to lining (due to rocky conditions) felt padding will be used.

The reserve pit shall be lined with felt and a 12 millimeter plastic liner.

EOG Resources, Inc. maintains a file, per 29 CFR 1910.1200 (g) containing current Material Safety Data Sheets (MSDS) for all chemicals, compounds, and/or substances which are used during the course of construction, drilling, completion, and production operations for this project. Hazardous materials (substances) which may be found at the site may include drilling mud and cementing products which are primarily inhalation hazards, fuels (flammable and/or combustible), materials that may be necessary for well completion/ stimulation activities such as flammable or combustible substances and acids/gels (corrosives). The opportunity for Superfund Amendments and Reauthorization Act (SARA) listed Extremely Hazardous Substances (EHS) at the site is generally limited to proprietary treating chemicals. All hazardous and EHS and commercial preparations will be handled in an appropriate manner to minimize the potential for leaks or spills to the environment.

#### 8. ANCILLARY FACILITIES:

None anticipated.

#### 9. WELL SITE LAYOUT:

- A. Refer to attached well site plat for related topography cuts and fills and cross sections.
- B. Refer to attached well site plat for rig layout and soil material stockpile location as approved on On-site.
- C. Refer to attached well site plat for rig orientation, parking areas, and access road.

The reserve pit will be located on the east corner of the location. The flare pit will be located downwind of the prevailing wind direction on the south side of the location, a minimum of 100 feet from the well head and 30 feet from the reserve pit fence.

The stockpiled pit topsoil will be stored separate from the location topsoil south of corner #5. The stockpiled location topsoil will be stored between corners #6, #8 and #1. Upon

completion of construction, the stockpiled topsoil from the location will be broadcast seeded with the approved seed mixture from this location and then walked down with a Caterpiller tractor.

Access to the well pad will be from the west.

#### **FENCING REQUIREMENTS:**

All pits will be fenced according to the following minimum standards:

- A. Thirty-nine inch net wire shall be used with at least one strand of barbed wire on top of the net wire. (Barbed wire is not necessary if pipe or some type of reinforcement rod is attached to the top of the entire fence.)
- B. The net wire shall be no more than 2 inches above the ground. The barbed wire strand shall be 3 inches above the net wire. Total height of the fence shall be at least 42 inches.
- C. Corner posts shall be cemented and/or braced in such a manner as to keep the fence tight at all times.
- D. Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distances between any two posts shall be no greater than 16 feet.
- E. All wire shall be stretched by using a stretching device before it is attached to the corner posts.

The reserve pit fencing will be on the three sides during drilling operations and on the fourth side when the rig moves off location. Pits will be fenced and maintained until clean-up.

Each existing fence to be crossed by the access road shall be braced and tied off before cutting so as to prevent slacking of the wire. The opening shall be closed temporarily as necessary during construction to prevent the escape of livestock, and, upon completion of construction, the fence shall be repaired to BLM or SMA specifications. A cattleguard with an adjacent 16 foot gate shall be installed in any fence where a road is regularly traveled. If the well is a producer, the cattleguards (shall/shall not) be permanently counted on concrete bases. Prior to crossing any fence located on Federal land, or any fence between Federal land and private land, the operator will contact the BLM, who will in turn contact the grazing permittee or owner of said fence and offer him/her the opportunity to be present when the fence is cut in order to satisfy himself/herself that the fence is adequately braced and tied off.

#### 10. Plans for Reclamation of the Surface:

#### A. Producing Location

Immediately upon well completion, the location and surrounding area will be cleared of all unused tubing, equipment, debris, materials, trash, and junk not required for production.

Immediately upon well completion, any hydrocarbons on the pit shall be removed in accordance with CFR 3162.7-1.

If a plastic nylon reinforced liner is used, it shall be torn and perforated before backfilling of the reserve pit.

The reserve pit and that portion of the location not needed for production facilities/operations will be recontoured to the approximate natural contours. The stockpiled pit topsoil will then be spread over the pit area and broadcast seeded with the prescribed seed mixture for this location. The seeded area will then be walked down with a cat.

Seed Mixture	Drilled Rate (lbs./acre PLS*)
Hi-Crest Crested Wheatgrass	9.0
Kocha Pastrata	3.0

<sup>\*</sup>Pure live seed (PLS) formula: percent of purity of seed mixture times percent germination of seed mixture equals portion of seed mixture that is PLS.

#### B. Dry Hole/Abandoned Location

At such time as the well is plugged and abandoned, the operator will submit a subsequent report of abandonment and the BLM will attach the appropriated surface rehabilitation conditions of approval.

Seed Mixture	Drilled Rate (Ibs./acre PLS*)
Gardner Salt Bush	4.0
Shad Scale	3.0
Hi-Crest Crested Wheat Grass	2.0

<sup>\*</sup>Pure live seed (PLS) formula: percent of purity of seed mixture times percent germination of seed mixture equals portion of seed mixture that is PLS.

#### 11. SURFACE OWNERSHIP:

Surface ownership of the proposed well site, access road, and pipeline route is as follows:

#### Bureau of Land Management

#### 12. OTHER INFORMATION:

- A. EOG Resources, Inc. will inform all persons in the area who are associated with this project that they are subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during construction, the operator will immediately stop work that might further disturb such materials, and contact the Authorized Officer. Within five working days the Authorized Officer will inform the operator as to:
  - Whether the materials appear eligible for the National Register of Historic Places;
  - The mitigation measures the operator will likely have to undertake before the site can be used.
  - A time frame for the Authorized Officer to complete an expedited review under 36 CFR 800.11 to confirm, through the State Historic Preservation Officer, that the findings of the Authorized Officer are correct and that mitigation is appropriate.

If the operator wished, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the Authorized Officer will assume responsibility for whatever recordation and stabilization of the exposed materials that may be required. Otherwise, the operator will be responsible for mitigation costs. The Authorized Officer will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the Authorized Officer that required mitigation has been completed, the operator will then be allowed to resume construction.

- B. As operator, EOG Resources, Inc. will control noxious weeds along Right-of-Ways for roads, pipelines, well sites, or other applicable facilities. A list of noxious weeds will be obtained from the BLM administered land, a Pesticide Use proposal shall be submitted, and given approval, prior to the application or herbicides or other pesticides or possible hazardous chemicals.
- C. The drilling rig and ancillary equipment will be removed from the location prior to commencement of completion operations. Completion operations will be conducted utilizing a completion/workover rig.
- D. Drilling rigs and/or equipment used during drilling operations on this well site will not be stacked or stored on BLM lands after the conclusion of drilling operations or at any other time without BLM authorization. However, if BLM authorization is obtained, it is only a temporary measure to allow time to make arrangements for permanent storage on commercial facilities. (The BLM does not seek to compete with private industry. There are commercial facilities available for stacking and storing drilling rigs.)

All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice of Lessees. The operator is fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Construction activity will not be conducted using frozen or saturated soils material or during periods when watershed damage is likely to occur.

If the existing access road, proposed access road, and proposed pad are dry during construction, drilling, and completion activities, water will be applied to help facilitate compaction during construction and to minimize soil loss as a result of wind erosion.

A cultural resources and paleontology survey will be conducted and submitted by Montgomery Archaeological Consultants.

#### LESSEE OR OPERATOR'S REPRESENTATIVE AND CERTIFICATION:

#### PERMITTING AGENT

Kaylene R. Gardner EOG Resources, Inc. P.O. Box 1815 Vernal, Ut 84078 (435) 781-9111

#### **DRILLING OPERATIONS**

Donald Presenkowski EOG Resources, Inc. P.O. Box 250 Big Piney, WY 83113 307-276-4865

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which currently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by EOG Resources, Inc. and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

Please be advised that EOG Resources, Inc. is considered to be the operator of the Chapita Wells Unit 1041-22 Well, located in the SWNW, of Section 22, T9S, R22E, Uintah County, Utah; Federal land and minerals; and is responsible under the terms and conditions of the lease for the operations conducted upon the leased lands. Bond Coverage is under Bond # NM 2308.

May 3, 2006

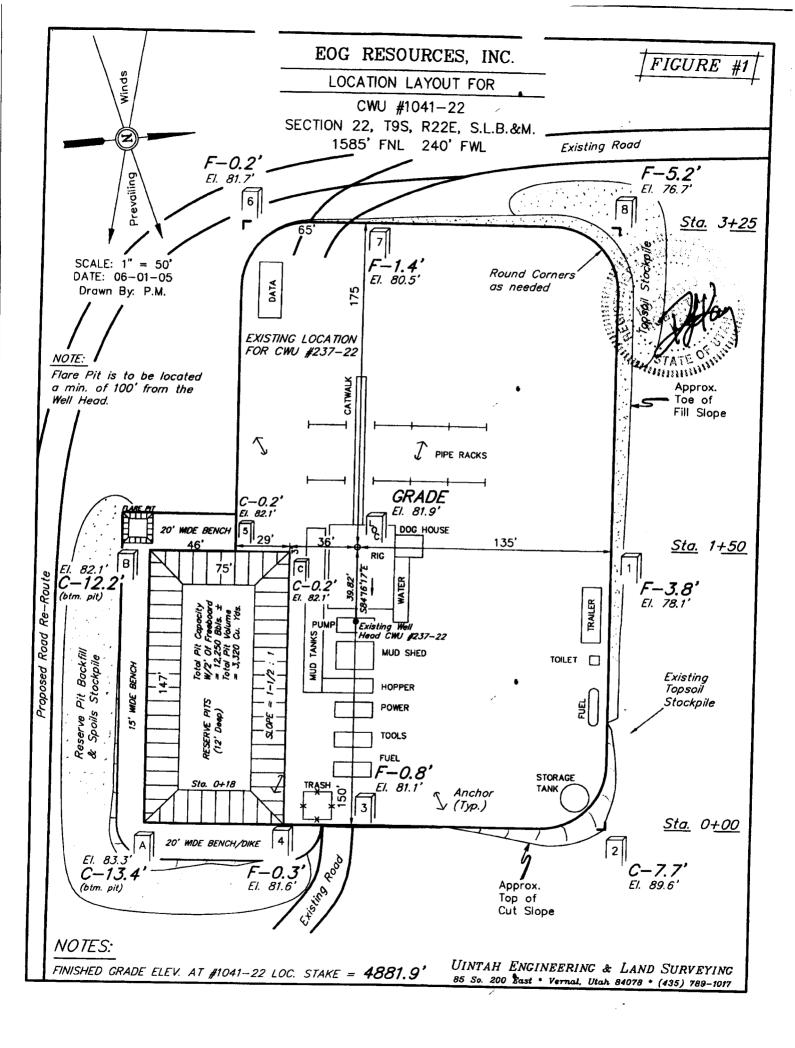
Date

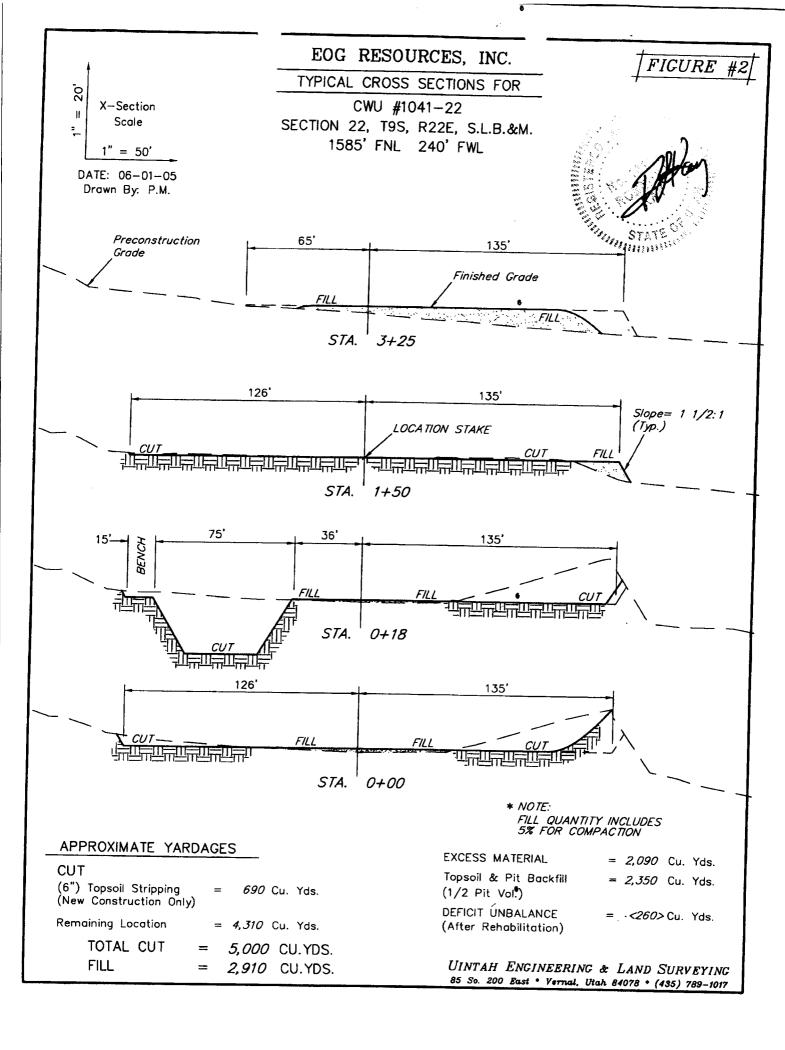
Wiene R. Gardner Regulatory Assistant

## EOG RESOURCES, INC. CWU #1041-22 SECTION 22, T9S, R22E, S.L.B.&M.

PROCEED IN A WESTERLY DIRECTION FROM VERNAL, UTAH ALONG U.S. HIGHWAY 40 APPROXIMATELY 14.0 MILES TO THE JUNCTION OF STATE HIGHWAY 88; EXIT LEFT AND PROCEED IN A SOUTHERLY DIRECTION APPROXIMATELY 17.0 MILES TO OURAY, UTAH; PROCEED IN A SOUTHERLY DIRECTION APPROXIMATELY 0.3 MILES ON THE SEEP RIDGE ROAD TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE EAST; TURN LEFT AND PROCEED IN AN EASTERLY DIRECTION APPROXIMATELY 12.3 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTH; TURN RIGHT AND PROCEED IN A SOUTHERLY DIRECTION APPROXIMATELY 1.7 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE EAST; TURN LEFT AND PROCEED IN AN EASTERLY DIRECTION APPROXIMATELY 1.9 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTHEAST; TURN RIGHT AND PROCEED IN A SOUTHEASTERLY DIRECTION APPROXIMATELY 0.5 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE WEST; TURN RIGHT AND PROCEED IN A WESTERLY DIRECTION APPROXIMATELY 0.8 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTH; TURN LEFT AND PROCEED IN A SOUTHERLY DIRECTION APPROXIMATELY 0.3 MILES TO THE CWU #237-22 AND THE PROPOSED LOCATION.

TOTAL DISTANCE FROM VERNAL, UTAH TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 48.8 MILES.





## EOG RESOURCES, INC.

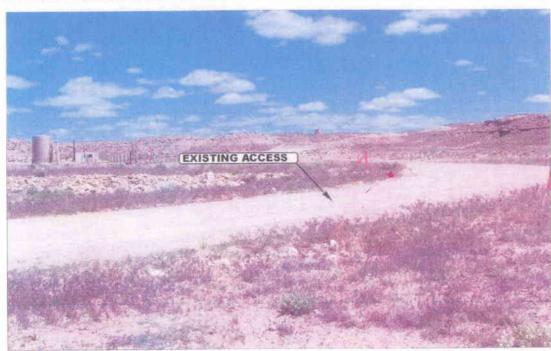
CWU #1041-22

LOCATED IN UINTAH COUNTY, UTAH SECTION 22, T9S, R22E, S.L.B.&M.



PHOTO: VIEW FROM CORNER #5 TO LOCATION STAKE

CAMERA ANGLE: NORTHEASTERLY



BUOTO, VIEW OF EVISTING ACCESS

CAMERA ANGLE: SOUTHEASTERLY



Uintah Engineering & Land Surveying 85 South 200 East Vernal, Utah 84078 435-789-1017 uels@uelsinc.com

LOCATION PHOTOS

06 17 05 MONTH DAY YEAR

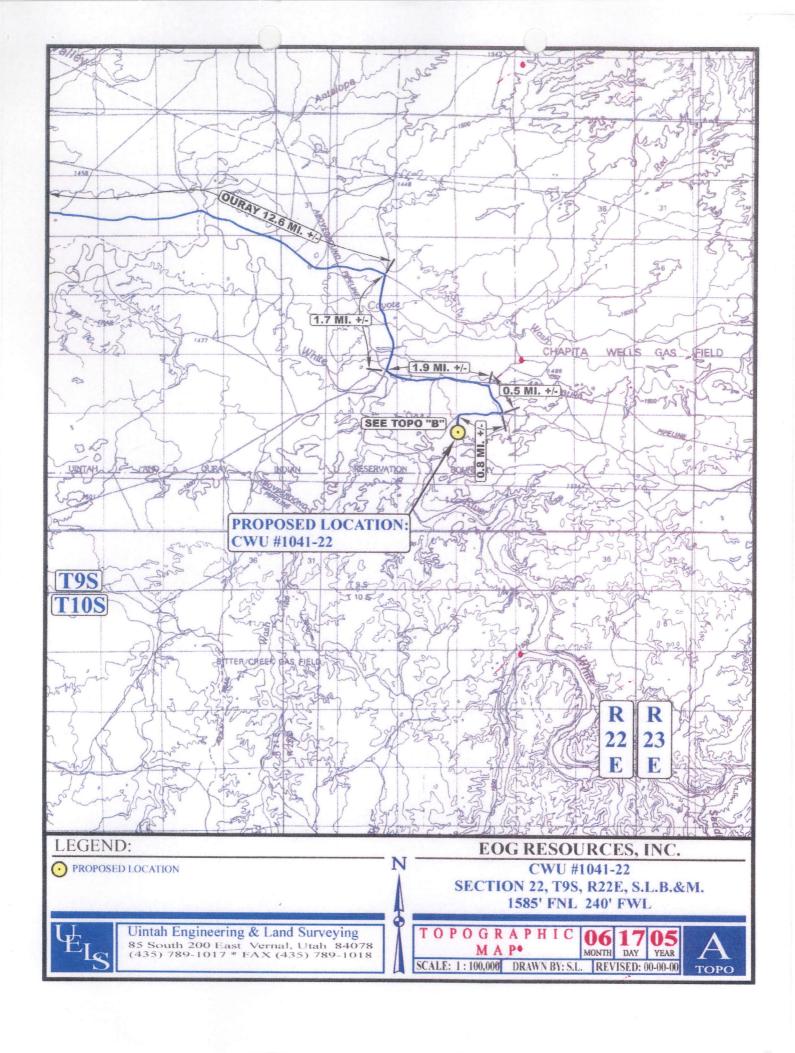
РНОТО

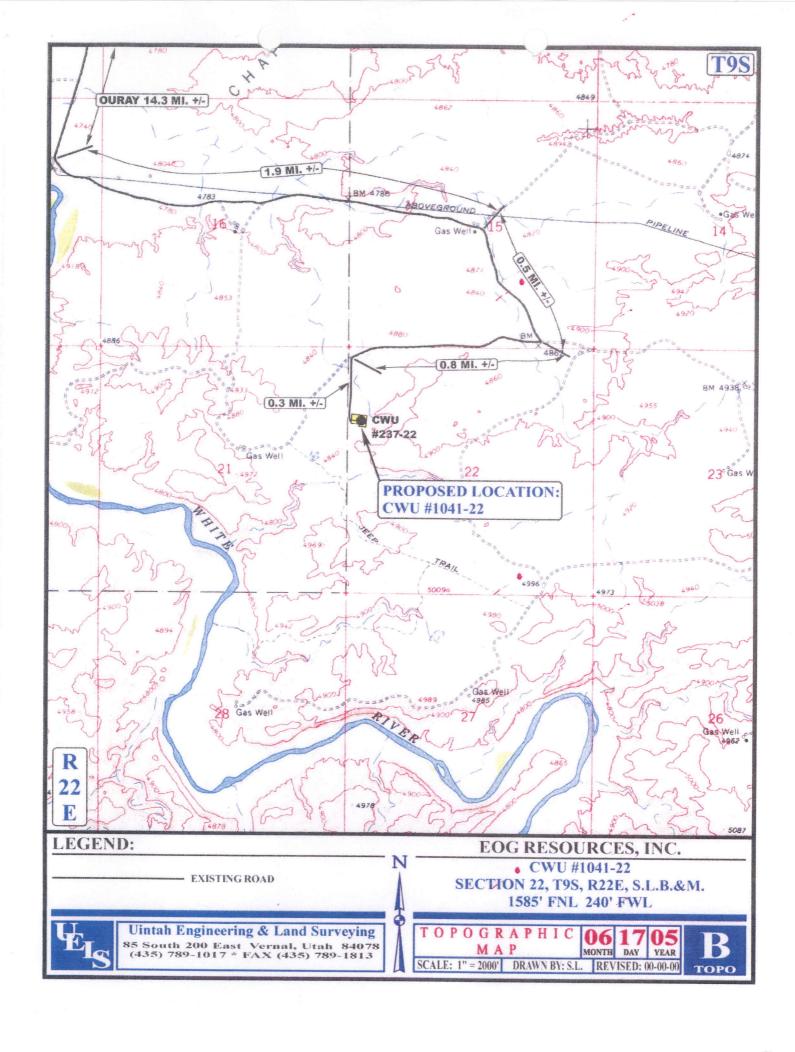
TAKEN BY: D.L.

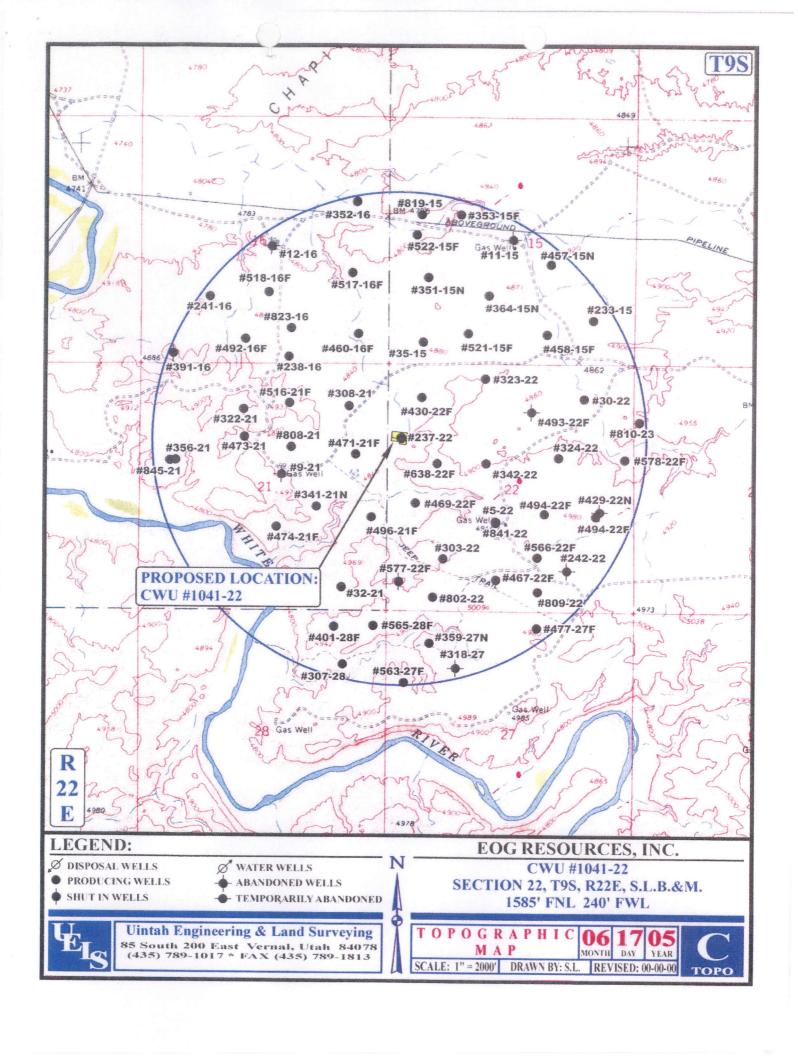
DRAWN BY: S.I

REVISED: 00-00-00

10

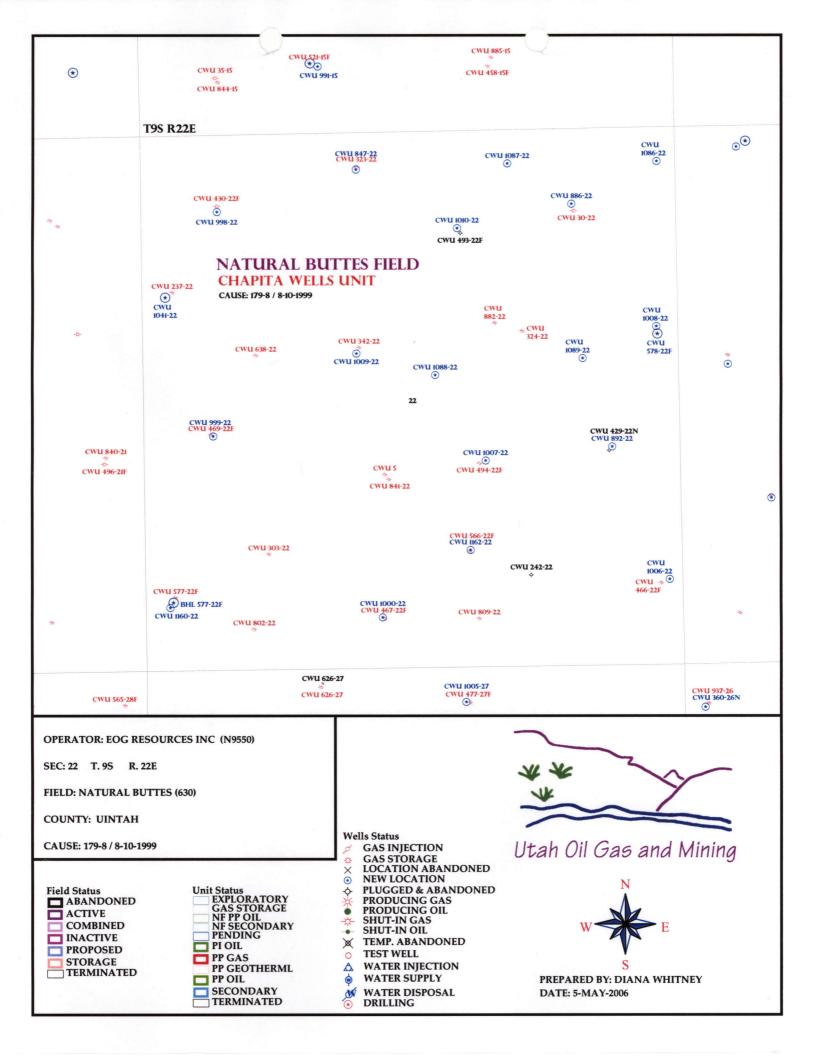






## WORKSHEET APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 05/05/2006	API NO. ASSIGNED: 43-047-38085
WELL NAME: CWU 1041-22	
OPERATOR: EOG RESOURCES INC ( N9550	PHONE NUMBER: 435-781-9111
CONTACT: KAYLENE GARDNER	
PROPOSED LOCATION:	INSPECT LOCATN BY: / /
SWNW 22 090S 220E SURFACE: 1585 FNL 0240 FWL	Tech Review Initials Date
BOTTOM: 1585 FNL 0240 FWL	Engineering
COUNTY: UINTAH	Geology
LATITUDE: 40.02447 LONGITUDE: -109.4340 UTM SURF EASTINGS: 633636 NORTHINGS: 4431	Surface
FIELD NAME: NATURAL BUTTES ( 630	
LEASE TYPE: 1 - Federal  LEASE NUMBER: U-0284-A  SURFACE OWNER: 1 - Federal	PROPOSED FORMATION: PRRV COALBED METHANE WELL? NO
RECEIVED AND/OR REVIEWED:  Plat  Bond: Fed[1] Ind[] Sta[] Fee[]  (No. NM 2308 )  Potash (Y/N)  Oil Shale 190-5 (B) or 190-3 or 190-13  Water Permit  (No. 49-1501 )  RDCC Review (Y/N)  (Date: )  Pure Fee Surf Agreement (Y/N)  Intent to Commingle (Y/N)	LOCATION AND SITING:  R649-2-3.  Unit: CHAPITA WELLS  R649-3-2. General Siting: 460 From Qtr/Qtr & 920' Between Wells  R649-3-3. Exception  Drilling Unit  Board Cause No: 1998 Eff Date: Siting: Survince Surv
STIPULATIONS:  1- Code Office  2- On Shai	NO E



## **United States Department of the Interior**

### BUREAU OF LAND MANAGEMENT

Utah State Office P.O. Box 45155 Salt Lake City, Utah 84145-0155

IN REPLY REFER TO: 3160 (UT-922)

May 8, 2006

#### Memorandum

To:

Assistant District Manager Minerals, Vernal District

From:

Michael Coulthard, Petroleum Engineer

Subject:

2006 Plan of Development Chapita Wells Unit Uintah

County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2006 within the Chapita Wells Unit, Uintah County, Utah.

API#

WELL NAME

LOCATION

(Proposed PZ Price River)

43-047-38080 CWU 713-07 Sec 07 T09S R23E 2101 FSL 0635 FWL 43-047-38062 CWU 712-07 Sec 07 T09S R23E 1826 FNL 0600 FWL 43-047-38063 CWU 1234-20 Sec 20 T09S R23E 0643 FSL 0844 FEL 43-047-38064 CWU 1233-20 Sec 20 T09S R23E 2071 FSL 2127 FEL 43-047-38065 CWU 1232-20 Sec 20 T09S R23E 2151 FSL 1933 FWL 43-047-38078 CWU 1237-21 Sec 21 T09S R23E 0689 FSL 1724 FEL 43-047-38066 CWU 1236-21 Sec 21 T09S R23E 2423 FSL 0778 FEL 43-047-38067 CWU 1238-22 Sec 22 T09S R23E 2150 FNL 2310 FEL 43-047-38085 CWU 1041-22 Sec 22 T09S R22E 1585 FNL 0240 FWL 43-047-38076 CWU 1239-28 Sec 28 T09S R23E 0470 FNL 0777 FEL 43-047-38077 CWU 1240-28 Sec 28 T09S R23E 1964 FNL 1999 FEL 43-047-38079 CWU 1083-30 Sec 30 T09S R23E 0579 FNL 2349 FWL 43-047-38084 CWU 447-10 Sec 10 T09S R22E 2047 FNL 1911 FWL 43-047-38083 CWU 975-12 Sec 12 T09S R22E 1635 FSL 0363 FWL 43-047-38081 CWU 1074-25 Sec 25 T09S R22E 1792 FSL 0974 FEL 43-047-38082 CWU 1077-25 Sec 25 T09S R22E 0460 FSL 1970 FEL

This office has no objection to permitting the wells at this time.

/s/ Michael L. Coulthard

bcc: File - Chapita Wells Unit

Division of Oil Gas and Mining

Central Files Agr. Sec. Chron Fluid Chron



State of Utah

Department of Natural Resources

MICHAEL R. STYLER Executive Director

Division of Oil, Gas & Mining

JOHN R. BAZA
Division Director

JON M. HUNTSMAN, JR. Governor

GARY R. HERBERT Lieutenant Governor

May 8, 2006

EOG Resources, Inc. P O Box 1815 Vernal, UT 84078

Re:

Chapita Wells Unit 1041-22 Well, 1585' FNL, 240' FWL, SW NW, Sec. 22,

T. 9 South, R. 22 East, Uintah County, Utah

### Gentlemen:

Pursuant to the provisions and requirements of Utah Code Ann.§ 40-6-1 et seq., Utah Administrative Code R649-3-1 et seq., and the attached Conditions of Approval, approval to drill the referenced well is granted.

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date. The API identification number assigned to this well is 43-047-38085.

Sincerely,

Gil Hunt

Associate Director

pab Enclosures

cc:

**Uintah County Assessor** 

Bureau of Land Management, Vernal District Office

Operator:	EOG Resources, Inc.			
Well Name & Number	Chapita Wells Unit 1041-22			
API Number:	43-047-38085			
Lease:	U-0284-A			
Location: SW NW	Sec. 22	T. 9 South	<b>R.</b> 22 East	

### **Conditions of Approval**

#### 1. General

Compliance with the requirements of Utah Admin. R. 649-1 *et seq.*, the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

## 2. Notification Requirements

Notify the Division within 24 hours of spudding the well.

Contact Carol Daniels at (801) 538-5284.

Notify the Division prior to commencing operations to plug and abandon the well.

• Contact Dan Jarvis at (801) 538-5338

## 3. Reporting Requirements

All required reports, forms and submittals will be promptly filed with the Division, including but not limited to the Entity Action Form (Form 6), Report of Water Encountered During Drilling (Form 7), Weekly Progress Reports for drilling and completion operations, and Sundry Notices and Reports on Wells requesting approval of change of plans or other operational actions.

- 4. In accordance with Order in Cause No. 190-5(b) dated October 28, 1982, the Operator shall comply with requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operator shall ensure that the surface and/or production casing is properly cemented over the entire oil shale interval as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the Division.
- 5. State approval of this well does not supersede the required federal approval, which must be obtained prior to drilling.

Form 3160-3 (February 2005)

## RECEIVED

FORM APPROVED OMB No. 1004-0137 Expires March 31, 2007

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

MAY - 5 2006

Lease Serial No. U-0284-A

PRINCATION FOR PERMIT TO DRILL OR REFINTER

6. If Indian, Allotee or Tribe Name

APPLICATION FOR PERMIT TO	·	LITA	LI	
la. Type of work:	BLM VERNA	L, U17	If Unit or CA Agree CHAPITA WE	
lb. Type of Well: Oil Well Gas Well Other	✓ Single Zone  Multi	ple Zone	8. Lease Name and W CHAPITA WE	ell No. LLS UNIT 1041-22
2. Name of Operator EOG RESOURCES, INC.			9, API Well No. 43,047	.38085
3a. Address P.O. Box 1815 Vernal, UT 84078	3b. Phone No. (include area code) 435-781-9111		10. Field and Pool, or E NATURAL BU	•
4. Location of Well (Report location clearly und in accordance with an At surface 1585 FNL 240 FWL (SW/NW) 40.0  At proposed prod. zone SAME			11. Sec., T. R. M. or Bll SEC. 22, T9S, F	k. and Survey or Area
14 Distance in miles and direction from nearest town or post office* 48.8 MILES SOUTH OF VERNAL, UTAH			12. County or Parish UINTAH	13. State UT
15. Distance from proposed* 240' location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No. of acres in lease	17. Spacin	g Unit dedicated to this w	ell
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.  1040'	19. Proposed Depth 9600'	20. BLM/ NM 2	BIA Bond No. on file	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 4882' GL	22. Approximate date work will start*		23. Estimated duration 45 DAYS	
	24. Attachments			
The following, completed in accordance with the requirements of Onshor	re Oil and Gas Order No.1, must be a	ittached to th	is form:	
<ol> <li>Well plat certified by a registered surveyor.</li> <li>A Drilling Plan.</li> <li>A Surface Use Plan (if the location is on National Forest System SUPO must be filed with the appropriate Forest Service Office).</li> </ol>	Lands, the ltem 20 above).  Lands, the 5. Operator certifi	cation	ns unless covered by an e	existing bond on file (see
25. Signature	Name (Printed Typed)  Kaylene R. Gardne	er		05/03/2006
Title Regulatory Assistant				
Approved by (Signature)	Name (Printed Typed)  Tener Ken a	e.KA	`	Date 12-20-2006
Title Ssistant Field Manager	Office	40 K3304 4 7 2 4	al field of	
Application approval does not warrant or certify that the applicant hole conduct operations thereon.  Conditions of approval, if any, are attached.	ds legal or equitable title to those rigi	nts in the sul	oject lease which would er	nutie the applicant to

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

\*(Instructions on page 2)

## CONDITIONS OF APPROVAL ATTAGREE

NOTICE OF APPROVAL

Accepted by the
Utah Division of
Oil, Gas and Mining
FOR RECORD ONLY

RECEIVED
JAN 3 0 2307

DIV. OF OIL, GAS & MINING



## UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT **VERNAL FIELD OFFICE**

**VERNAL, UT 84078** 

(435) 781-4400



Cell: 435-828-4470

Cell: 435-828-7875

Cell: 435-828-3913

Cell: 435-828-4029

## CONDITIONS OF APPROVAL FOR APPLICATION FOR PERMIT TO DRILL

Company:

**EOG Resources** 

Location: Lease No: SWNW, Sec 22, T9S, R22E

Well No: API No:

CWU 1041-22 43-047-38085

Agreement:

UTU-0284-A

Chapita Wells Unit

Petroleum Engineer:

Petroleum Engineer: Supervisory Petroleum Technician:

**Environmental Scientist: Environmental Scientist:** 

Natural Resource Specialist: Natural Resource Specialist: Natural Resource Specialist: After Hours Contact Number: 435-781-4513

Jamie Sparger Paul Buhler Karl Wright Holly Villa Melissa Hawk

Matt Baker

Michael Lee

Scott Ackerman

Office: 435-781-4502 Office: 435-781-4475 Office: 435-781-4484 Office: 435-781-4404

Office: 435-781-4490

Office: 435-781-4432

Office: 435-781-4476 Office: 435-781-4437 Fax: 435-781-4410

## A COPY OF THESE CONDITIONS SHALL BE FURNISHED TO YOUR FIELD REPRESENTATIVE TO INSURE COMPLIANCE

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (43 CFR Part 3160), and this approved Application for Permit to Drill including Surface and Downhole Conditions of Approval. The operator is considered fully responsible for the actions of his subcontractors. A copy of the approved APD must be on location during construction. drilling, and completion operations. This permit is approved for a one-year period. An additional year extension may be applied for by sundry notice prior to expiration.

#### NOTIFICATION REQUIREMENTS

Location Construction (Notify Paul Buhler)

Forty-Eight (48) hours prior to construction of location and access roads.

**Location Completion** (Notify Paul Buhler)

Prior to moving on the drilling rig.

Spud Notice

(Notify Petroleum Engineer)

Twenty-Four (24) hours prior to spudding the well.

Casing String & Cementing (Notify Jamie Sparger)

Twenty-Four (24) hours prior to running casing and cementing all casing strings

**BOP & Related Equipment Tests** (Notify Jamie Sparger)

Twenty-Four (24) hours prior to initiating pressure tests

First Production Notice (Notify Petroleum Engineer) Within Five (5) business days after new well begins or production resumes after well has been off production for more than ninety (90) days

Page 2 of 6 Well: CWU 1041-22 12/18/2006

## SURFACE USE PROGRAM CONDITIONS OF APPROVAL (COAs)

### Conditions for Approval are in the APD

- Within 90 calendar days of the approval date for this Application for Permit to Drill (APD), the operator/lessee shall submit to the Authorized Officer (AO), on Sundry Notice Form 3160-5, an Interim Surface Reclamation Plan for surface disturbance on well pads, access roads, and pipelines. At a minimum, this would include the reshaping of the pad to the original contour to the extent possible; the respreading of the top soil up to the rig anchor points; and, the area reseeded using appropriate reclamation methods. The AO will provide written approval or concurrence within 30 calendar days of receipt.
- During interim management of the surface, use the following seed mix:
  - o 9 lbs of Hycrest Crested Wheatgrass & 3 lbs of Kochia prostrate.
- This location is on an existing location so there would be no buried pipeline.

Page 3 of 6 Well: CWU 1041-22 12/18/2006

#### DOWNHOLE CONDITIONS OF APPROVAL

All provisions outlined in Onshore Oil & Gas Order #2 Drilling Operations shall be strictly adhered to. The following items are emphasized:

## SITE SPECIFIC DOWNHOLE CONDITIONS OF APPROVAL

- A surface casing shoe integrity test shall be performed.
- A variance is granted for Onshore Order #2-Drilling Operations III. E. "Blooie line discharge 100 feet from well bore and securely anchored"
  - o Blooie line can be 75 feet.
- Production casing cement shall be at a minimum 200 feet inside the surface casing. A
  CBL shall be run from TD to top of cement and a field copy shall be sent to this field
  office.

#### DRILLING/COMPLETION/PRODUCING OPERATING STANDARDS

- There shall be no deviation from the proposed drilling, completion, and/or workover program as approved. Safe drilling and operating practices must be observed. All wells, whether drilling, producing, suspended, or abandoned, shall be identified in accordance with 43 CFR 3162.6. There shall be a sign or marker with the name of the operator, lease serial number, well number, and surveyed description of the well. Any changes in operation must have prior approval from the BLM, Vernal Field Office Petroleum Engineers.
- The spud date and time shall be reported orally to Vernal Field Office within 24 hours of spudding.
- Notify Vernal Field Office Supervisory Petroleum Engineering Technician at least 24 hours in advance of casing cementing operations and BOPE & casing pressure tests.
- Blowout prevention equipment (BOPE) shall remain in use until the well is completed or abandoned. Closing unit controls shall remain unobstructed and readily accessible at all times. Choke manifolds shall be located outside of the rig substructure.
- All BOPE components shall be inspected daily and those inspections shall be recorded
  in the daily drilling report. Components shall be operated and tested as required by
  Onshore Oil & Gas Order No. 2 to insure good mechanical working order. All BOPE
  pressure tests shall be performed by a test pump with a chart recorder and NOT by the
  rig pumps. Test shall be reported in the driller's log.
- BOP drills shall be initially conducted by each drilling crew within 24 hours of drilling out from under the surface casing and weekly thereafter as specified in Onshore Oil & Gas Order No. 2.
- Casing pressure tests are required before drilling out from under all casing strings set and cemented in place.
- No aggressive/fresh hard-banded drill pipe shall be used within casing.

Page 4 of 6 Well: CWU 1041-22 12/18/2006

- All shows of fresh water and minerals shall be reported and protected. A sample shall
  be taken of any water flows and a water analysis furnished the BLM, Vernal Field Office.
  All oil and gas shows shall be adequately tested for commercial possibilities, reported,
  and protected.
- No location shall be constructed or moved, no well shall be plugged, and no drilling or workover equipment shall be removed from a well to be placed in a suspended status without prior approval of the BLM, Vernal Field Office. If operations are to be suspended for more than 30 days, prior approval of the BLM, Vernal Field Office shall be obtained and notification given before resumption of operations.
- Chronologic drilling progress reports shall be filed directly with the BLM, Vernal Field
  Office on a weekly basis in sundry, letter format or e-mail to the Petroleum Engineers
  until the well is completed.
- Any change in the program shall be approved by the BLM, Vernal Field Office. "Sundry Notices and Reports on Wells" (Form BLM 3160-5) shall be filed for all changes of plans and other operations in accordance with 43 CFR 3162.3-2.
- Emergency approval may be obtained orally, but such approval does not waive the
  written report requirement. Any additional construction, reconstruction, or alterations of
  facilities, including roads, gathering lines, batteries, etc., which will result in the
  disturbance of new ground, shall require the filing of a suitable plan pursuant to Onshore
  Oil & Gas Order No. 1 of 43 CFR 3164.1 and prior approval by the BLM, Vernal Field
  Office.
- In accordance with 43 CFR 3162.4-3, this well shall be reported on the "Monthly Report of Operations" (Oil and Gas Operations Report ((OGOR)) starting with the month in which operations commence and continue each month until the well is physically plugged and abandoned. This report shall be filed in duplicate, directly with the Minerals Management Service, P.O. Box 17110, Denver, Colorado 80217-0110, or call 1-800-525-7922 (303) 231-3650 for reporting information.
- Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (BLM Form 3160-4) shall be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3162.4-1. Two copies of all logs run, core descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, shall be filed on BLM Form 3160-4. Submit with the well completion report a geologic report including, at a minimum, formation tops, and a summary and conclusions. Also include deviation surveys, sample descriptions, strip logs, core data, drill stem test data, and results of production tests if performed. Samples (cuttings, fluid, and/or gas) shall be submitted only when requested by the BLM, Vernal Field Office.
- A cement bond log (CBL) will be run from the production casing shoe to the surface casing shoe and shall be utilized to determine the bond quality for the production casing. Submit a field copy of the CBL to this office.
- Please submit an electronic copy of all other logs run on this well in LAS format to UT\_VN\_Welllogs@BLM.gov. This submission will supersede the requirement for submittal of paper logs to the BLM.

Page 5 of 6 Well: CWU 1041-22 12/18/2006

- All off-lease storage, off-lease measurement, or commingling on-lease or off-lease shall have prior written approval from the BLM, Vernal Field Office.
- All measurement points shall be identified as point of sales or allocation for royalty determination prior to the installation of facilities.
- Oil and gas meters shall be calibrated in place prior to any deliveries. The Field Office
  Petroleum Engineers will be provided with a date and time for the initial meter calibration
  and all future meter proving schedules. A copy of the meter calibration reports shall be
  submitted to the BLM, Vernal Field Office. All measurement facilities will conform to the
  API standards for liquid hydrocarbons and the AGA standards for natural gas
  measurement.
- A schematic facilities diagram as required by Onshore Oil & Gas Order No. 3 shall be submitted to the BLM, Vernal Field Office within 30 days of installation or first production, whichever occurs first. All site security regulations as specified in Onshore Oil & Gas Order No. 3 shall be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed in accordance with Onshore Oil & Gas Order No. 3.
- This APD is approved subject to the requirement that, shall the well be successfully completed for production, the BLM, Vernal Field office must be notified when it is placed in a producing status. Such notification will be by written communication and must be received in this office by not later than the fifth business day following the date on which the well is placed on production. The notification shall provide, as a minimum, the following informational items:
  - Operator name, address, and telephone number.
  - o Well name and number.
  - o Well location (¼¼, Sec., Twn, Rng, and P.M.).
  - o Date well was placed in a producing status (date of first production for which royalty will be paid).
  - o The nature of the well's production, (i.e., crude oil, or crude oil and casing head gas, or natural gas and entrained liquid hydrocarbons).
  - The Federal or Indian lease prefix and number on which the well is located;
     otherwise the non-Federal or non-Indian land category, i.e., State or private.
  - o Unit agreement and / or participating area name and number, if applicable.
  - o Communitization agreement number, if applicable.
- Any venting or flaring of gas shall be done in accordance with Notice to Lessees (NTL)
   4A and needs prior approval from Field Office Petroleum Engineers.
- All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in NTL 3A will be reported to the BLM, Vernal Field Office. Major events as defined in NTL3A, shall be reported verbally within 24 hours, followed by a written report within 15 days.
   "Other than Major Events" will be reported in writing within 15 days. "Minor Events" will be reported on the Monthly Report of Operations and Production.
- Pursuant to Onshore Oil & Gas Order No. 7, this is authorization for pit disposal of water produced from this well for a period of 90 days from the date of initial production. A permanent disposal method must be approved by this office and in operation prior to the

Page 6 of 6 Well: CWU 1041-22 12/18/2006

end of this 90-day period. In order to meet this deadline, an application for the proposed permanent disposal method shall be submitted along with any necessary water analyses, as soon as possible, but no later than 45 days after the date of first production. Any method of disposal which has not been approved prior to the end of the authorized 90-day period will be considered as an Incident of Noncompliance and will be grounds for issuing a shut-in order until an acceptable manner for disposing of said water is provided and approved by this office.

Unless the plugging is to take place immediately upon receipt of oral approval, the Field
Office Petroleum Engineers must be notified at least 24 hours in advance of the plugging
of the well, in order that a representative may witness plugging operations. If a well is
suspended or abandoned, all pits must be fenced immediately until they are backfilled.
The "Subsequent Report of Abandonment" (Form BLM 3160-5) must be submitted within
30 days after the actual plugging of the well bore, showing location of plugs, amount of
cement in each, and amount of casing left in hole, and the current status of the surface
restoration.

STATE OF UTAH			FORM 9		
DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS AND MINING			5. LEASE DESIGNATION AND SERIAL NUMBER: U-0284-A		
SUNDRY	NOTICES AND REPORTS ON	N WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:		
Do not use this form for proposals to drill r	ew wells, significantly deepen existing wells below current bott terals. Use APPLICATION FOR PERMIT TO DRILL form for s	tom-hole depth, reenter plugged wells, or to such proposals.	7. UNIT OF CA AGREEMENT NAME: Chapita Wells Unit		
1. TYPE OF WELL OIL WELL	[7]		8. WELL NAME and NUMBER: Chapita Wells Unit 1041-22		
2. NAME OF OPERATOR: EOG Resources, Inc.			9. API NUMBER: 43-047-38085		
3. ADDRESS OF OPERATOR: 600 17th Street, Suite 1000N CIT	Ponver STATE CO ZIP 8020	PHONE NUMBER: (303) 262-2812	10. FIELD AND POOL, OR WILDCAT: Natural Buttes/Mesaverde		
4. LOCATION OF WELL	FNL & 240' FWL 40.024383 LAT 109		COUNTY: UINTAH		
QTR/QTR, SECTION, TOWNSHIP, RAI	IGE, MERIDIAN: SWNW 22 9S 22E	S.L.B. & M	STATE: UTAH		
11. CHECK APP	ROPRIATE BOXES TO INDICATE NA	ATURE OF NOTICE, REPO	RT, OR OTHER DATA		
TYPE OF SUBMISSION		TYPE OF ACTION			
	ACIDIZE	DEEPEN	REPERFORATE CURRENT FORMATION		
NOTICE OF INTENT (Submit in Duplicate)	ALTER CASING	FRACTURE TREAT	SIDETRACK TO REPAIR WELL		
Approximate date work will start:	CASING REPAIR	NEW CONSTRUCTION	TEMPORARILY ABANDON		
Approximate date work will occur.	CHANGE TO PREVIOUS PLANS	OPERATOR CHANGE	TUBING REPAIR		
		PLUG AND ABANDON	VENT OR FLARE		
	CHANGE TUBING		WATER DISPOSAL		
SUBSEQUENT REPORT (Submit Original Form Only)	CHANGE WELL NAME	PLUG BACK	<u> </u>		
Date of work completion:	CHANGE WELL STATUS	PRODUCTION (START/RESUME)	WATER SHUT-OFF		
Date of work completion.	COMMINGLE PRODUCING FORMATIONS	RECLAMATION OF WELL SITE	OTHER: APD EXTENSION		
	CONVERT WELL TYPE	RECOMPLETE - DIFFERENT FORMATION	REQUEST		
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.					
	pectfully requests the APD for the refe				
EOG Resources, Inc. res	pectionly requests the Ar D for the role	STOTIONS WOILDS OXIONIOS TO	, 5,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
Approved by the Utah Division of					
	Oil, Gas and	Mining			
	Date: Of 2	3-00	4.23.07 Pm		

(This space for State use only)

NAME (PLEASE PRINT) Carrie MacDonald

RECEIVED
APR 2 0 2007

Operations Clerk

4/19/2007

## Application for Permit to Drill Request for Permit Extension Validation

43-047-38085

API:

(this form should accompany the Sundry Notice requesting permit extension)

RECEIVED
APR 2 0 2007

## STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES

## DIVISION OF OIL, GAS AND MINING

#### **ENTITY ACTION FORM**

Operator:

EOG RESOURCES, INC.

Operator Account Number: N 9550

Address:

600 17th Street

city Denver

zip 80202 state CO

Phone Number: (303) 262-2812

#### Well 1

ADITA WELL CLIN						
CHAPITA WELLS UNIT 1041-22		SWNW	22	98	22E	UINTAH
Current Entity Number	New Entity Number	S	pud Da	ė		ty Assignment ffective Date
99999	13650	1	0/3/200	7	10	/17 /07
	<b>Number</b> 99999	Number Number	Number         Number           99999         13650         1	Number         Number           99999         13650           10/3/200	Number         Number           99999         13650         10/3/2007	Number         Number         E           99999         13650         10/3/2007         10

Wall 2

API Number	Well Name		QQ	Sec	Twp	Rng	County
43-047-38061	NORTH CHAPITA 339-34		NWSW	34	8S	22E	UINTAH
Action Code	Current Entity Number	New Entity Number	S	oud Da	te		ity Assignment ffective Date
Α	99999	16386	1	0/4/200	)7		10/17/07

#### Well 3

API Number	Well Name		QQ	Sec	Twp	Rng	County
Action Code	Current Entity Number	New Entity Number		 Spud Da	te		 tity Assignment Effective Date
Comments:					· · · ·	<u> </u>	

#### **ACTION CODES:**

- A Establish new entity for new well (single well only)
- B Add new well to existing entity (group or unit well)
- C Re-assign well from one existing entity to another existing entity
- D Re-assign well from one existing entity to a new entity
- E Other (Explain in 'comments' section)

Carrie MacDonald

Name (Please Print)

Signature

10/4/2007 Date

RECEIV Prations Clerk

OCT 0 9 2007

Form 3160-5 (August 2007)

## UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

FORM APPROVED OMB NO. 1004-0135 Expires: July 31, 2010

	UTU0284A				
abandoned well	s form for proposals to I. Use form 3160-3 (APL	drill or to re-enter an O) for such proposals.		6. If Indian, Allottee of	or Tribe Name
SUBMIT IN TRIF	SUBMIT IN TRIPLICATE - Other instructions on reverse side.				
1. Type of Well		·		8. Well Name and No.	
☐ Oil Well 🖸 Gas Well 🔲 Oth	er			CHAPITA WELLS	S UNIT 1041-22
2. Name of Operator EOG RESOURCES, INC.	9. API Well No. 43-047-38085				
3a. Address 600 17TH STREET, SUITE 1000N DENVER, CO 80202  3b. Phone No. (include area code) Ph: 303-262-2812				10. Field and Pool, or NATURAL BUT	Exploratory TES/MESAVERDE
4. Location of Well (Footage, Sec., T.	, R., M., or Survey Description,			11. County or Parish,	and State
Sec 22 T9S R22E SWNW 158 40.02438 N Lat, 109.43465 W		UINTAH COUN	TY COUNTY, UT		
12. CHECK APPR	COPRIATE BOX(ES) TO	) INDICATE NATURE OF	NOTICE, RI	EPORT, OR OTHE	R DATA
TYPE OF SUBMISSION	TYPE OF ACTION				
	<b>—</b> A -141	□ Doomon			
□ Nation of Intent	☐ Acidize	Deepen	☐ Product	ion (Start/Resume)	■ Water Shut-Off
☐ Notice of Intent	☐ Alter Casing	☐ Fracture Treat	☐ Product ☐ Reclama	,	<ul><li>□ Water Shut-Off</li><li>□ Well Integrity</li></ul>
<ul><li>□ Notice of Intent</li><li>☑ Subsequent Report</li></ul>	_	<b>–</b> .	_	ation	☐ Well Integrity  ☑ Other
	☐ Alter Casing	☐ Fracture Treat	☐ Reclama	ation	☐ Well Integrity
Subsequent Report     ■	☐ Alter Casing ☐ Casing Repair	☐ Fracture Treat ☐ New Construction	☐ Reclama	ation olete arily Abandon	☐ Well Integrity  ☑ Other

KAH	
KS BOB	

14. I hereby certify th	nat the foregoing is true and correct. Electronic Submission #56650 verified For EOG RESOURCES,			
Name (Printed/Typ	ped) CARRIE E MACDONALD	Title	OPERATIONS CLERK	
Signature	(Electronic Submission)	Date	10/04/2007	
	THIS SPACE FOR FEDERA	LUK	STATE OFFICE USE	
Approved By		Title		Date
Conditions of approval, certify that the applican	if any, are attached. Approval of this notice does not warrant or at holds legal or equitable title to those rights in the subject lease applicant to conduct operations thereon.	Office	,	

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

\*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\* RECEIVED

OCT 0 9 2007



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 8 1595 WYNKOOP STREET DENVER, CO 80202-1129 http://www.epa.gov/region8

OCT 1 2007

-Ref: 8P-W-GW

<u>CERTIFIED MAIL</u> RETURN RECEIPT REQUESTED Accepted by the
Utah Division of
Oil, Gas and Mining
FOR RECORD ONLY

Alex Campbell Enduring Resources, LLC 475 17th Street Suite 1500 Denver, CO 80202

43-047-36277

Re: FINAL UIC Permit

EPA UIC Permit UT21062-07150

Well: Buck Camp 11-22-11-36 WD

Uintah County, UT

RECEIVED

OCT 2 2 2007

Dear Mr. Campbell:

DIV. OF OIL, GAS & MINING

Enclosed is your copy of the FINAL Underground Injection Control (UIC) Permit for the proposed Buck Camp 11-22-14-36 WD injection well. A Statement of Basis that discusses the conditions and requirements of this EPA UIC Permit, is also included.

SEP 2 1 2007

The Public Comment period for this Permit ended on \_\_\_\_\_\_\_. No comments on the Draft Permit were received during the Public Notice period; therefore the Effective Date for this EPA UIC Permit is the date of issuance. All conditions set forth herein refer to Title 40 Parts 124, 144, 146, and 147 of the Code of Federal Regulations (CFR) and are regulations that are in effect as of the Effective Date of this Permit.

Please note that under the terms and conditions of this Final Permit you are authorized only to construct the proposed injection well. Prior to commencing injection, you first must fulfill all "Prior to Commencing Injection" requirements of the Final Permit, Part II Section C Subpart 1, and obtain written Authorization to Inject from the EPA. It is your responsibility to be familiar with and to comply with all provisions of your Final Permit.

This EPA UIC Permit is issued for the operating life of the well unless terminated (Part III, Section B). The EPA may review this Permit at least every five (5) years to determine whether any action is warranted pursuant to 40 CFR § 144.36(a).



If you have any questions on the enclosed Final Permit or Statement of Basis, please call Patricia Pfeiffer of my staff at (303) 312-6271, or toll-free at (800) 227-8917, ext. 312-6271.

And Division of Gas and Mining

Sincerely,

FUR RECORD OF LY

MStephen S. Tuber

Jeh 12 There

Assistant Regional Administrator
Office of Partnerships and Regulatory Assistance

enclosure:

Final UIC Permit

Statement of Basis

Form 7520-7 Application to Transfer Permit

Form 7520-11 Monitoring Report Form 7520-14 Plugging Plan

Form 7520-12 Well Rework Record Groundwater Section Guidance 34 Groundwater Section Guidance 35 Groundwater Section Guidance 37 Groundwater Section Guidance 39

cc:

Curtis Cesspooch, Chairperson

Uintah & Ouray Business Committee

Ute Indian Tribe

Ronald Groves, Councilman

Uintah & Ouray Business Committee

Ute Indian Tribe

Irene Cuch, Vice-Chairperson

Uintah & Ouray Business Committee

Ute Indian Tribe

Steven Cesspooch, Councilman Uintah & Ouray Business Committee Ute Indian Tribe Phillip Chimbraus, Councilman Uintah & Ouray Business Committee Ute Indian Tribe

Francis Poowegup, Councilman Uintah & Ouray Business Committee Ute Indian Tribe

Chester Mills, Superintendent BIA - Uintah & Ouray Indian Agency

Shawn Chapoose, Director Land Use Department Ute Indian Tribe

Gil Hunt Technical Services Manager Utah Division of Oil, Gas, and Mining

Fluid Minerals Engineering Office BLM - Vernal Office

Lynn Becker, Director Energy and Minerals Department Ute Indian Tribe

## **\$EPA**

# UNDERGROUND INJECTION CONTROL PROGRAM PERMIT

PREPARED: September 2007

Permit No. UT21062-07150

Class II Salt Water Disposal Well

Buck Camp 11-22-14-36 WD Uintah County, UT

Issued To

**Enduring Resources LLC** 

475 17th Street, Suite 1500 Denver, CO 80202

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## Part I. AUTHORIZATION TO CONSTRUCT AND OPERATE

Under the authority of the Safe Drinking Water Act and Underground Injection Control (UIC) Program regulations of the U. S. Environmental Protection Agency (EPA) codified at Title 40 of the Code of Federal Regulations (40 CFR) Parts 2, 124, 144, 146, and 147, and according to the terms of this Permit,

Enduring Resources LLC 475 17th Street, Suite 1500 Denver, CO 80202

is authorized to construct and to operate the following Class II injection well or wells:

Buck Camp 11-22-14-36 WD 851' FSL 475 ' FWL, SWSW S36, T11S, R22E Uintah County, UT

EPA regulates the injection of fluids into injection wells so that injection does not endanger underground sources of drinking water (USDWs). EPA UIC Permit conditions are based on authorities set forth at 40 CFR Parts 144 and 146, and address potential impacts to USDWs.

Under 40 CFR Part 144, Subpart D, certain conditions apply to all UIC Permits and may be incorporated either expressly or by reference. General permit conditions for which the content is mandatory and not subject to site-specific differences are not discussed in this document. Issuance of this Permit does not convey any property rights of any sort or any exclusive privilege, nor does it authorize injury to persons or property or invasion of other private rights, or any infringement of other Federal, State or local laws or regulations. (40 CFR §144.35) An EPA UIC Permit may be issued for the operating life of the injection well or project unless terminated for reasonable cause under 40 CFR §§144.39, 144.40 and 144.41, and may be reviewed at least once every five (5) years to determine if action is required under 40 CFR §144.36(a).

This Permit is issued for the life of the well(s) unless modified, revoked and reissued, or terminated under 40 CFR 144.39 or 144.40. This EPA Permit may be adopted, modified, revoked and reissued, or terminated if primary enforcement authority for a UIC Program is delegated to an Indian Tribe or State. Upon the effective date of delegation, reports, notifications, questions and other correspondence should be directed to the Indian Tribe or State Director.

Issue Date: OCT 5 2007 Effective Date OCT 5 2007

Stephen S. Tuber

Assistant Regional Administrator\*

Office of Partnerships and Regulatory Assistance

\*NOTE: The person holding this title is referred to as the "Director" throughout this Permit.

### PART II. SPECIFIC PERMIT CONDITIONS

#### Section A. WELL CONSTRUCTION REQUIREMENTS

These requirements represent the approved minimum construction standards for well casing and cement, injection tubing, and packer.

Details of the approved well construction plan are incorporated into this Permit as APPENDIX A. Changes to the approved plan that may occur during construction must be approved by the Director prior to being physically incorporated.

#### 1. Casing and Cement.

The well or wells shall be cased and cemented to prevent the movement of fluids into or between underground sources of drinking water. The well casing and cement shall be designed for the life expectancy of the well and of the grade and size shown in APPENDIX A. Remedial cementing may be required if shown to be inadequate by cement bond log or other attempted demonstration of Part II (External) mechanical integrity.

## 2. Injection Tubing and Packer.

Injection tubing is required, and shall be run and set with a packer at or below the depth indicated in APPENDIX A. The packer setting depth may be changed provided it remains below the depth indicated in APPENDIX A and the Permittee provides notice and obtains the Director's approval for the change.

## 3. Sampling and Monitoring Devices.

The Permittee shall install and maintain in good operating condition:

- (a) a "tap" at a conveniently accessible location on the injection flow line between the pump house or storage tanks and the injection well, isolated by shut-off valves, for collection of representative samples of the injected fluid; and
- (b) one-half (1/2) inch female iron pipe fitting, isolated by shut-off valves and located at the wellhead at a conveniently accessible location, for the attachment of a pressure gauge capable of monitoring pressures ranging from normal operating pressures up to the Maximum Allowable Injection Pressure specified in APPENDIX C:
  - (i) on the injection tubing; and
  - (ii) on the tubing-casing annulus (TCA); and
- (c) a pressure actuated shut-off device attached to the injection flow line set to shut-off the injection pump when or before the Maximum Allowable Injection Pressure (MAIP) specified in APPENDIX C is reached at the wellhead; and
- (d) a non-resettable cumulative volume recorder attached to the injection line.

4. Well Logging and Testing

Well logging and testing requirements are found in APPENDIX B. The Permittee shall ensure the log and test requirements are performed within the time frames specified in APPENDIX B. Well logs and tests shall be performed according to current EPA-approved procedures. Well log and test results shall be submitted to the Director within sixty (60) days of completion of the logging or testing activity, and shall include a report describing the methods used during logging or testing and an interpretation of the test or log results.

The latest version of the "EPA Region 6 UIC Pressure Falloff Testing Guideline" shall be used as a guideline for designing the required Pressure Falloff Test. This guideline often refers to hazardous waste wells and regulatory terms associated with them, but the pressure falloff test design, test methods, and test interpretation guidelines are all very appropriate to Class II wells.

## 5. Postponement of Construction or Conversion

The Permittee shall complete well construction within one year of the Effective Date of the Permit, or in the case of an Area Permit within one year of Authorization of the additional well. Authorization to construct and operate shall expire if the well has not been constructed within one year of the Effective Date of the Permit or Authorization and the Permit may be terminated under 40 CFR 144.40, unless the Permittee has notified the Director and requested an extension prior to expiration. Notification shall be in writing, and shall state the reasons for the delay and provide an estimated completion date. Once Authorization has expired under this part, the complete permit process including opportunity for public comment may be required before Authorization to construct and operate may be reissued.

#### 6. Workovers and Alterations

Workovers and alterations shall meet all conditions of the Permit. Prior to beginning any addition or physical alteration to an injection well that may significantly affect the tubing, packer or casing, the Permittee shall give advance notice to the Director and obtain the Director's approval. The Permittee shall record all changes to well construction on a Well Rework Record (EPA Form 7520-12), and shall provide this and any other record of well workover, logging, or test data to EPA within sixty (60) days of completion of the activity.

A successful demonstration of Part I MI is required following the completion of any well workover or alteration which affects the casing, tubing, or packer. Injection operations shall not be resumed until the well has successfully demonstrated mechanical integrity and the Director has provided written approval to resume injection.

## Section B. MECHANICAL INTEGRITY

The Permittee is required to ensure each injection well maintains mechanical integrity at all times. The Director, by written notice, may require the Permittee to comply with a schedule describing when mechanical integrity demonstrations shall be made.

An injection well has mechanical integrity if:

(a) There is no significant leak in the casing, tubing, or packer (Part I); and

(b) There is no significant fluid movement into an underground source of drinking water through vertical channels adjacent to the injection well bore (Part II).

## 1. Demonstration of Mechanical Integrity (MI).

The operator shall demonstrate MI prior to commencing injection and periodically thereafter. Well-specific conditions dictate the methods and the frequency for demonstrating MI and are discussed in the Statement of Basis. The logs and tests are designed to demonstrate both internal (Part I) and external (Part II) MI as described above. The conditions present at this well site warrant the methods and frequency required in Appendix B of this Permit.

In addition to these regularly scheduled demonstrations of MI, the operator shall demonstrate internal (Part I) MI after any workover which affects the tubing, packer or casing.

The Director may require additional or alternative tests if the results presented by the operator are not satisfactory to the Director to demonstrate there is no movement of fluid into or between USDWs resulting from injection activity. Results of MI tests shall be submitted to the Director as soon as possible but no later than sixty (60) days after the test is complete.

#### 2. Mechanical Integrity Test Methods and Criteria

EPA-approved methods shall be used to demonstrate mechanical integrity. Ground Water Section Guidance No. 34 "Cement Bond Logging Techniques and Interpretation", Ground Water Section Guidance No. 37, "Demonstrating Part II (External) Mechanical Integrity for a Class II injection well permit", and Ground Water Section Guidance No. 39, "Pressure Testing Injection Wells for Part I (Internal) Mechanical Integrity" are available from EPA and will be provided upon request.

The Director may stipulate specific test methods and criteria best suited for a specific well construction and injection operation.

#### 3. Notification Prior to Testing.

The Permittee shall notify the Director at least 30 days prior to any scheduled mechanical integrity test. The Director may allow a shorter notification period if it would be sufficient to enable EPA to witness the mechanical integrity test. Notification may be in the form of a yearly or quarterly schedule of planned mechanical integrity tests, or it may be on an individual basis.

#### 4. Loss of Mechanical Integrity.

If the well fails to demonstrate mechanical integrity during a test, or a loss of mechanical integrity becomes evident during operation (such as presence of pressure in the TCA, water flowing at the surface, etc.), the Permittee shall notify the Director within 24 hours (see Part III Section E Paragraph 11(e) of this Permit) and the well shall be shut-in within 48 hours unless the Director requires immediate shut-in.

Within five days, the Permittee shall submit a follow-up written report that documents test results, repairs undertaken or a proposed remedial action plan.

Injection operations shall not be resumed until after the well has successfully been repaired and demonstrated mechanical integrity, and the Director has provided approval to resume injection.

## Section C. WELL OPERATION

INJECTION BETWEEN THE OUTERMOST CASING PROTECTING UNDERGROUND SOURCES OF DRINKING WATER AND THE WELL BORE IS PROHIBITED.

Injection is approved under the following conditions:

## 1. Requirements Prior to Commencing Injection.

Well injection, including for new wells authorized by an Area Permit under 40 CFR 144.33 (c), may commence only after all well construction and pre-injection requirements herein have been met and approved. The Permittee may not commence injection until construction is complete, and

- (a) The Permittee has submitted to the Director a notice of completion of construction and a completed EPA Form 7520-10 or 7520-12; all applicable logging and testing requirements of this Permit (see APPENDIX B) have been fulfilled and the records submitted to the Director; mechanical integrity pursuant to 40 CFR 146.8 and Part II Section B of this Permit has been demonstrated; and
  - (i) The Director has inspected or otherwise reviewed the new injection well and finds it is in compliance with the conditions of the Permit; or
  - (ii) The Permittee has not received notice from the Director of his or her intent to inspect or otherwise review the new injection well within 13 days of the date of the notice in Paragraph 1a, in which case prior inspection or review is waived and the Permittee may commence injection.

## 2. Injection Interval.

Injection is permitted only within the approved injection interval, listed in APPENDIX C. Additional individual injection perforations may be added provided that they remain within the approved injection interval and the Permittee provides notice to the Director in accordance with Part II, Section A, Paragraph 6.

## 3. Injection Pressure Limitation

- (a) The permitted Maximum Allowable Injection Pressure (MAIP), measured at the wellhead, is found in APPENDIX C. Injection pressure shall not exceed the amount the Director determines is appropriate to ensure that injection does not initiate new fractures or propagate existing fractures in the confining zone adjacent to USDWs. In no case shall injection pressure cause the movement of injection or formation fluids into a USDW.
- (b) The Permittee may request a change of the MAIP, or the MAIP may be increased or decreased by the Director in order to ensure that the requirements in Paragraph (a) above are fulfilled. The Permitee may be required to conduct a step rate injection test or other suitable test to provide information for determining the fracture pressure of the injection zone. Change of the permitted MAIP by the Director shall be by modification of this Permit and APPENDIX C.

### 4. Injection Volume Limitation.

Injection volume is limited to the total volume specified in APPENDIX C.

If the injection zone is shown to contain fluids of less than 10,000 mg/L total dissolved solids (TDS), then an aquifer exemption decision will need to be made prior to approval for injection. If an aquifer exemption is approved, the cumulative injected fluid volume will need to be monitored to ensure that the injectate is not moving out of the authorized 1/4 mile radius.

#### 5. Injection Fluid Limitation.

Injected fluids are limited to those which are brought to the surface in connection with conventional oil or natural gas production and may be commingled with waste waters from gas plants which are an integral part of production operations unless those waters are classified as a hazardous waste at the time of injection, pursuant to 40 CFR 144.6(b). The well also may be used to inject approved Class II wastes brought to the surface such as drilling fluids and spent well completion, treatment and stimulation fluids. Non-exempt wastes, including unused fracturing fluids or acids, gas plant cooling tower cleaning wastes, service wastes and vacuum truck wastes, are NOT approved. This well is NOT approved for commercial brine or other fluid disposal operation.

Fluid sources are listed in Appendix C of the Permit No. UT21062-07150.

## 6. Tubing-Casing Annulus (TCA)

The tubing-casing annulus (TCA) shall be filled with water treated with a corrosion inhibitor, or other fluid approved by the Director. The TCA valve shall remain closed during normal operating conditions and the TCA pressure shall be maintained at zero (0) psi.

If TCA pressure cannot be maintained at zero (0) psi, the Permittee shall follow the procedures in Ground Water Section Guidance No. 35 "Procedures to follow when excessive annular pressure is observed on a well."

## Section D. MONITORING, RECORDKEEPING, AND REPORTING OF RESULTS

## 1. Monitoring Parameters, Frequency, Records and Reports.

Monitoring parameters are specified in APPENDIX D. Pressure monitoring recordings shall be taken at the wellhead. The listed parameters are to be monitored, recorded and reported at the frequency indicated in APPENDIX D even during periods when the well is not operating.

Monitoring records must include:

- (a) the date, time, exact place and the results of the observation, sampling, measurement, or analysis, and;
- (b) the name of the individual(s) who performed the observation, sampling, measurement, or analysis, and;
- (c) the analytical techniques or methods used for analysis.

## 2. Monitoring Methods.

- (a) Monitoring observations, measurements, samples, etc. taken for the purpose of complying with these requirements shall be representative of the activity or condition being monitored.
- (b) Methods used to monitor the nature of the injected fluids must comply with analytical methods cited and described in Table 1 of 40 CFR 136.3 or Appendix III of 40 CFR 261, or by other methods that have been approved in writing by the Director.
- (c) Injection pressure, annulus pressure, injection rate, and cumulative injected volumes shall be observed and recorded at the wellhead under normal operating conditions, and all parameters shall be observed simultaneously to provide a clear depiction of well operation.
- (d) Pressures are to be measured in pounds per square inch (psi).
- (e) Fluid volumes are to be measured in standard oil field barrels (bbl).
- (f) Fluid rates are to be measured in barrels per day (bbl/day).

#### 3. Records Retention.

- (a) Records of calibration and maintenance, and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit shall be retained for a period of AT LEAST THREE (3) YEARS from the date of the sample, measurement, report, or application. This period may be extended anytime prior to its expiration by request of the Director.
- (b) Records of the nature and composition of all injected fluids must be retained until three (3) years after the completion of any plugging and abandonment (P&A) procedures specified under 40 CFR 144.52(a)(6) or under Part 146 Subpart G, as appropriate. The Director may require the Permittee to deliver the records to the Director at the conclusion of the retention period. The Permittee shall continue to retain the records after the three (3) year retention period unless the Permittee delivers the records to the Director or obtains written approval from the Director to discard the records.
- (c) The Permittee shall retain records at the location designated in APPENDIX D.

#### 4. Annual Reports.

Whether the well is operating or not, the Permittee shall submit an Annual Report to the Director that summarizes the results of the monitoring required by Part II Section D and APPENDIX D. The report of fluids injected during the year must identify each new fluid source by well name and location, and the field name or facility name.

The first Annual Report shall cover the period from the effective date of the Permit through December 31 of that year. Subsequent Annual Reports shall cover the period from January 1 through December 31 of the reporting year. Annual Reports shall be submitted by February 15 of the year following data collection. EPA Form 7520-11 may be copied and shall be used to submit the Annual Report, however, the monitoring requirements specified in this Permit are mandatory even if EPA Form 7520-11 indicates otherwise.

## Section E. PLUGGING AND ABANDONMENT

## 1. Notification of Well Abandonment, Conversion or Closure.

The Permittee shall notify the Director in writing at least forty-five (45) days prior to: 1) plugging and abandoning an injection well, 2) converting to a non-injection well, and 3) in the case of an Area Permit, before closure of the project.

## 2. Well Plugging Requirements

Prior to abandonment, the injection well shall be plugged with cement in a manner which isolates the injection zone and prevents the movement of fluids into or between underground sources of drinking water, and in accordance with 40 CFR 146.10 and other applicable Federal, State or local law or regulations. Tubing, packer and other downhole apparatus shall be removed. Cement with additives such as accelerators and retarders that control or enhance cement properties may be used for plugs; however, volume-extending additives and gel cements are not approved for plug use. Plug placement shall be verified by tagging. Plugging gel of at least 9.6 lb/gal shall be placed between all plugs. A minimum 50 ft surface plug shall be set inside and outside of the surface casing to seal pathways for fluid migration into the subsurface. The Plugging Record must be certified as accurate and complete by the person responsible for the plugging operation. Prior to placement of the cement plug(s) the well shall be in a state of static equilibrium with the mud weight equalized top to bottom, either by circulating the mud in the well at least once or by a comparable method prescribed by the Director.

## 3. Approved Plugging and Abandonment Plan.

The approved plugging and abandonment plan is incorporated into this Permit as APPENDIX E. Changes to the approved plugging and abandonment plan must be approved by the Director prior to beginning plugging operations. The Director also may require revision of the approved plugging and abandonment plan at any time prior to plugging the well.

## 4. Forty Five (45) Day Notice of Plugging and Abandonment.

The Permittee shall notify the Director at least forty-five (45) days prior to plugging and abandoning a well and provide notice of any anticipated change to the approved plugging and abanonment plan.

## 5. Plugging and Abandonment Report.

Within sixty (60) days after plugging a well, the Permittee shall submit a report (EPA Form 7520-13) to the Director. The plugging report shall be certified as accurate by the person who performed the plugging operation. Such report shall consist of either:

(a) A statement that the well was plugged in accordance with the approved plugging and abandonment plan; or

(b) Where actual plugging differed from the approved plugging and abandonment plan, an updated version of the plan, on the form supplied by the Director, specifying the differences.

#### 6. Inactive Wells.

After any period of two years during which there is no injection the Permittee shall plug and abandon the well in accordance with Part II Section E Paragraph 2 of this Permit unless the Permittee:

- (a) Provides written notice to the Director;
- (b) Describes the actions or procedures the Permittee will take to ensure that the well will not endanger USDWs during the period of inactivity. These actions and procedures shall include compliance with mechanical integrity demonstration, Financial Responsibility and all other permit requirements designed to protect USDWs; and
- (c) Receives written notice by the Director temporarily waiving plugging and abandonment requirements.

## PART III. CONDITIONS APPLICABLE TO ALL PERMITS

## Section A. EFFECT OF PERMIT

The Permittee is allowed to engage in underground injection in accordance with the conditions of this Permit. The Permittee shall not construct, operate, maintain, convert, plug, abandon, or conduct any other activity in a manner that allows the movement of fluid containing any contaminant into underground sources of drinking water, if the presence of that contaminant may cause a violation of any primary drinking water regulation under 40 CFR 142 or may otherwise adversely affect the health of persons. Any underground injection activity not authorized by this Permit or by rule is prohibited. Issuance of this Permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of any other Federal, State or local law or regulations. Compliance with the terms of this Permit does not constitute a defense to any enforcement action brought under the provisions of Section 1431 of the Safe Drinking Water Act (SDWA) or any other law governing protection of public health or the environment, for any imminent and substantial endangerment to human health or the environment, nor does it serve as a shield to the Permittee's independent obligation to comply with all UIC regulations. Nothing in this Permit relieves the Permittee of any duties under applicable regulations.

## Section B. CHANGES TO PERMIT CONDITIONS

## 1. Modification, Reissuance, or Termination.

The Director may, for cause or upon a request from the Permittee, modify, revoke and reissue, or terminate this Permit in accordance with 40 CFR 124.5, 144.12, 144.39, and 144.40. Also, this Permit is subject to minor modification for causes as specified in 40 CFR 144.41. The filing of a request for modification, revocation and reissuance, termination, or the notification of planned changes or anticipated noncompliance on the part of the Permittee does not stay the applicability or enforceability of any condition of this Permit.

### 2. Conversions.

The Director may, for cause or upon a written request from the Permittee, allow conversion of the well from a Class II injection well to a non-Class II well. Conversion may not proceed until the Permittee receives written approval from the Director. Conditions of such conversion may include but are not limited to, approval of the proposed well rework, follow up demonstration of mechanical integrity, well-specific monitoring and reporting following the conversion, and demonstration of practical use of the converted configuration.

#### 3. Transfer of Permit.

Under 40 CFR 144.38, this Permit is transferable provided the current Permittee notifies the Director at least thirty (30) days in advance of the proposed transfer date (EPA Form 7520-7) and provides a written agreement between the existing and new Permittees containing a specific date for transfer of Permit responsibility, coverage and liability between them. The notice shall adequately demonstrate that the financial responsibility requirements of 40 CFR 144.52(a)(7) will be met by the new Permittee. The Director may require modification or revocation and reissuance of the Permit to change the name of the Permittee and incorporate such other requirements as may be necessary under the Safe Drinking Water Act; in some cases, modification or revocation and reissuance is mandatory.

#### 4. Permittee Change of Address.

Upon the Permittee's change of address, or whenever the operator changes the address where monitoring records are kept, the Permittee must provide written notice to the Director within 30 days.

## 5. Construction Changes, Workovers, Logging and Testing Data

The Permittee shall give advance notice to the Director, and shall obtain the Director's written approval prior to any physical alterations or additions to the permitted facility. Alterations or workovers shall meet all conditions as set forth in this permit. The Permittee shall record any changes to the well construction on a Well Rework Record (EPA Form 7520-12), and shall provide this and any other record of well workovers, logging, or test data to EPA within sixty (60) days of completion of the activity.

Following the completion of any well workovers or alterations which affect the casing, tubing, or packer, a successful demonstration of mechanical integrity (Part III, Section F of this Permit) shall be made, and written authorization from the Director received, prior to resuming injection activities.

#### Section C. SEVERABILITY

The Provisions of this Permit are severable, and if any provision of this Permit or the application of any provision of this Permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this Permit shall not be affected thereby.

#### Section D. CONFIDENTIALITY

In accordance with 40 CFR Part 2 and 40 CFR 144.5, information submitted to EPA pursuant to this Permit may be claimed as confidential by the submitter. Any such claim must be asserted at the time of submission by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, EPA may make the information available to the public without further notice. If a claim is asserted, the validity of the claim will be assessed in accordance with the procedures in 40 CFR Part 2 (Public Information). Claims of confidentiality for the following information will be denied:

- The name and address of the Permittee, and
- information which deals with the existence, absence or level of contaminants in drinking water.

## Section E. GENERAL PERMIT REQUIREMENTS

#### 1. Duty to Comply.

The Permittee must comply with all conditions of this Permit. Any noncompliance constitutes a violation of the Safe Drinking Water Act (SDWA) and is grounds for enforcement action; for Permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application; except that the Permittee need not comply with the provisions of this Permit to the extent and for the duration such noncompliance is authorized in an emergency permit under 40 CFR 144.34. All violations of the SDWA may subject the Permittee to penalties and/or criminal prosecution as specified in Section 1423 of the SDWA.

#### 2. Duty to Reapply.

If the Permittee wishes to continue an activity regulated by this Permit after the expiration date of this Permit, under 40 CFR 144.37 the Permittee must apply for a new permit prior to the expiration date.

#### 3. Need to Halt or Reduce Activity Not a Defense.

It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Permit.

#### 4. Duty to Mitigate.

The Permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this Permit.

#### 5. Proper Operation and Maintenance.

The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this Permit.

#### 6. Permit Actions.

This Permit may be modified, revoked and reissued or teminated for cause. The filing of a request by the Permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

#### 7. Property Rights.

This Permit does not convey any property rights of any sort, or any exclusive privilege.

### 8. Duty to Provide Information.

The Permittee shall furnish to the Director, within a time specified, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The Permittee shall also furnish to the Director, upon request, copies of records required to be kept by this Permit. The Permittee is required to submit any information required by this Permit or by the Director to the mailing address designated in writing by the Director.

#### 9. Inspection and Entry.

The Permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

(a) Enter upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Permit;

- (b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Permit;
- (c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Permit; and,
- (d) Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the SDWA, any substances or parameters at any location.

#### 10. Signatory Requirements.

All applications, reports or other information submitted to the Director shall be signed and certified according to 40 CFR 144.32. This section explains the requirements for persons duly authorized to sign documents, and provides wording for required certification.

#### 11. Reporting Requirements.

- (a) Planned changes. The Permittee shall give notice to the Director as soon as possible of any planned changes, physical alterations or additions to the permitted facility, and prior to commencing such changes.
- (b) Anticipated noncompliance. The Permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
- (c) Monitoring Reports. Monitoring results shall be reported at the intervals specified in this Permit.
- (d) Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Permit shall be submitted no later than 30 days following each schedule date.
- (e) Twenty-four hour reporting. The Permittee shall report to the Director any noncompliance which may endanger human health or the environment, including:
  - (i) Any monitoring or other information which indicates that any contaminant may cause endangerment to a USDW; or
  - (ii) Any noncompliance with a permit condition or malfunction of the injection system which may cause fluid migration into or between USDWs.

Information shall be provided, either directly or by leaving a message, within twenty-four (24) hours from the time the permittee becomes aware of the circumstances by telephoning (800) 227-8917 and requesting EPA Region VIII UIC Program Compliance and Technical Enforcement Director, or by contacting the EPA Region VIII Emergency Operations Center at (303) 293-1788.

In addition, a follow up written report shall be provided to the Director within five (5) days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause, the period of noncompliance including exact dates and times, and if the noncompliance has not been corrected the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

- (f) Oil Spill and Chemical Release Reporting: The Permittee shall comply with all reporting requirements related to the occurence of oil spills and chemical releases by contacting the National Response Center (NRC) at (800) 424-8802, (202) 267-2675, or through the NRC website http://www.nrc.uscg.mil/index.htm.
- (g) Other Noncompliance. The Permittee shall report all instances of noncompliance not reported under paragraphs Part III, Section E Paragraph 11(b) or Section E, Paragraph 11(e) at the time the monitoring reports are submitted. The reports shall contain the information listed in Paragraph 11(e) of this Section.
- (h) Other information. Where the Permittee becomes aware that it failed to submit any relevant facts in the permit application, or submitted incorrect information in a permit application or in any report to the Director, the Permittee shall promptly submit such facts or information to the Director.

#### Section F. FINANCIAL RESPONSIBILITY

#### 1. Method of Providing Financial Responsibility.

The Permittee shall maintain continuous compliance with the requirement to maintain financial responsibility and resources to close, plug, and abandon the underground injection well(s). No substitution of a demonstration of financial responsibility shall become effective until the Permittee receives written notification from the Director that the alternative demonstration of financial responsibility is acceptable. The Director may, on a periodic basis, require the holder of a permit to revise the estimate of the resources needed to plug and abandon the well to reflect changes in such costs and may require the Permittee to provide a revised demonstration of financial responsibility.

#### 2. Insolvency.

In the event of:

- (a) the bankruptcy of the trustee or issuing institution of the financial mechanism; or
- (b) suspension or revocation of the authority of the trustee institution to act as trustee; or

(c) the institution issuing the financial mechanism losing its authority to issue such an instrument

the Permittee must notify the Director in writing, within ten (10) business days, and the Permittee must establish other financial assurance or liability coverage acceptable to the Director within sixty (60) days after any event specified in (a), (b), or (c) above.

The Permittee must also notify the Director by certified mail of the commencement of voluntary or involuntary proceedings under Title 11 (Bankruptcy), U.S. Code naming the owner or operator as debtor, within ten (10) business days after the commencement of the proceeding. A guarantor, if named as debtor of a corporate guarantee, must make such a notification as required under the terms of the guarantee.

#### **APPENDIX A**

## WELL CONSTRUCTION REQUIREMENTS

## DRILLING OPERATIONS CONVERSION OPERATIONS

The well will be killed with produced formation water. The 2-3/8" tubing string will be pulled from the well.

A bridge plug will be set at +/-4727 and a 20' cement plug will be dump bailed on top of the bridge plug. This will abandon the existing perforations at 6150-52', 6130-32' & 6050-52'.

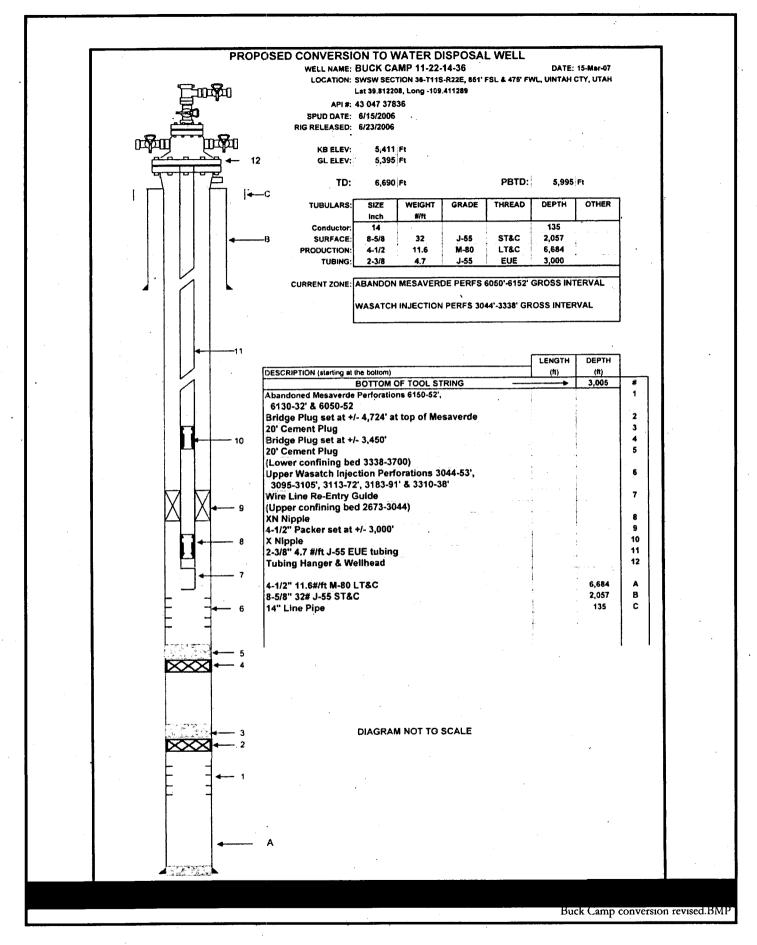
A bridge plug will be set at +/-3450 and a 20' cement plug will be dump bailed on top of the bridge plug.

The casing and bridge plug will be pressure tested to 1000 psi.

The proposed injection intervals in the upper Wasatch will be perforated from 3044-53', 3095-3105', 3113-72', 3183-91' & 3310-38' with 2 shots per foot, 180 degree phase.

An injection packer will be set at +/- 3000'. 2-3/8" 4.7# J-55 injection tubing will be run in the hole to the top of the packer. The hole will be displaced with fresh water annulus fluid containing corrosion inhibitors and oxygen scavengers. The tubing will be spaced out and latched onto the packer. The wellhead will be installed and the perforations will be broken down to insure communication to the injection intervals.

Plug placement will be verified by tagging the top of the plug after the cement has had adequate time to set. If a bridge plug is used at the base of the cement plug, tagging the top of the plug is not necessary.



#### **APPENDIX B**

## LOGGING AND TESTING REQUIREMENTS

#### Logs.

Logs will be conducted according to current UIC guidance. It is the responsibility of the Permittee to obtain and use guidance prior to conducting any well logging required as a condition of this permit.

TYPE OF LOG	DATE DUE
Injection Profile Survey	Prior to injection
TEMP	The test will be performed 1 year after injection and at 3 years after injection. If confinement is not confirmed, then EPA may consider limiting injection rates of prohibiting injection, if necessary to protect underground sources of drinking water.

#### Tests.

Tests will be conducted according to current UIC guidance. It is the responsibility of the Permittee to obtain and use guidance prior to conducting any well test required as a condition of this permit.

The latest version of the "EPA Region 6 UIC Pressure Falloff Testing Guideline" shall be used as a guideline for designing the required Pressure Falloff Test. This guideline often refers to hazardous waste wells and regulatory terms associated with them, but the pressure falloff test design, test methods, and test interpretation guidelines are all very appropriate to Class II wells.

TYPE OF TEST	DATE DUE
Pressure Fall-Off Test	The test will be performed 1 year after injection and at years after injection. If confinement is not confirmed, then EPA may consider limiting injection rates of prohibiting injection, if necessary to protect underground sources of drinking water.
Injection Zone Water Sample	Prior to injection; swab testing on formation- conductivity to be monitored for consistency prior to sample collection; salinity profile on completion fluids to be submitted
Standard Annulus Pressure	Prior to injection and at least once every 5 years thereafter
Pore Pressure	Prior to injection
Step Rate Test	Within 30 days of injection operations

## **APPENDIX C**

## **OPERATING REQUIREMENTS**

## MAXIMUM ALLOWABLE INJECTION PRESSURE:

Maximum Allowable Injection Pressure (MAIP) as measured at the surface shall not exceed the pressure(s) listed below.

	MAXIMUM ALLOWED INJECTION PRESSURE (psi)
WELL NAME	ZONE 1 (Upper)
Buck Camp 11-22-14-36 WD	855

## **INJECTION INTERVAL(S):**

Injection is permitted only within the approved injection interval listed below. Injection perforations may be altered provided they remain within the approved injection interval and the Permittee provides notice to the Director in accordance with Part II, Section A, Paragraph 6. Specific injection perforations can be found in Appendix A.

Well Name	TDS (mg/L)	Specific Gravity (mg/L)
Rock House 2D-36	25,487	1.018
Rock House 3-32	30,746	1.021
Rock House 4-36	31,853	1.022
Rock House 6D-32	30,064	1.021
Rock House 7-32	33,632	1.023
Rock House 11-31	29,622	1.020
Rock House 12D-32	24,922	1.017
Archy Bench 12-23-42-16	8,395	1.006
Archy Bench 11-24-24-32	5,087	1.005
Archy Bench 12-23-22-16	3,159	1.003
East Bench 11-22-11-16	30,079	1.022
Big Pack 12-21-22-2	51,392	1.036
Buck Camp 11-22-11-25	48,953	1.035
Buck Camp 11-22-11-26	51,773	1.037
Buck Camp 11-22-11-36	49,578	1.034
Buck Camp 12-22-21-2	30,026	1.021
Buck Camp 31-5	11,307	1.009
Buck Camp 6-15	8,985	1.007
Buck Camp 3-12	45,574	1.032
Hanging Rock 12-24-11-18	14,180	1.011
Rainbow 11-24-31-16	8,036	1.006
Rock Hopper 29-11	11,171	1.009
Rock House 5-32	28,934	1.021
Rock House 6D-32	5,781	1.004
Rock House 10D-32	21,720	1.015
Rock House 10-22-21-36	59,186	1.042
Rock House 10-22-13-36	34,672	1.025
Rock House 10-22-14-36	34,012	1.024
Rock House 10-22-31-36	43,384	1.031
Stump Jumper 11-23-23-33B	9,363	1.007
Thurston 12-1	22,763	1.016

ELL NAME: Buck Camp 11-22-14-36 WD			
	APPROVED INJECTION INTERVAL (KB, ft)		FRACTURE GRADIENT
FORMATION NAME	TOP	BOTTOM	(psi/ft)
Wasatch Formation	3,044.00	- 3,338.00	0.730

## ANNULUS PRESSURE:

The annulus pressure shall be maintained at zero (0) psi as measured at the wellhead. If this pressure cannot be maintained, the Permittee shall follow the procedures listed under Part II, Section C. 6. of this permit.

## **MAXIMUM INJECTION VOLUME:**

There is no limitation on the number of barrels per day (bbls/day) of water that shall be injected into this well, provided further that in no case shall injection pressure exceed that limit shown in Appendix C.

If the injection zone is shown to contain fluids of less than 10,000 mg/L total dissolved solids (TDS), then an aquifer exemption decision will need to be made prior to approval for injection. If an aquifer exemption is approved, the cumulative injected fluid volume limit is 17,225,989 bbl and will need to be monitored to ensure that the injectate is not moving out of the authorized 1/4 mile radius.

## APPENDIX D

## MONITORING AND REPORTING PARAMETERS

This is a listing of the parameters required to be observed, recorded, and reported. Refer to the permit Part II, Section D, for detailed requirements for observing, recording, and reporting these parameters.

OBSERVE	WEEKLY AND RECORD AT LEAST ONCE EVERY THIRTY DAYS
OBSERVE AND RECORD	Injection pressure (psig)
	Annulus pressure(s) (psig)
	Injection rate (bbl/day)
	Fluid volume injected since the well began injecting (bbls)

	ANNUALLY
ANALYZE	Injected fluid total dissolved solids (mg/l)
	Injected fluid specific gravity
	Injected fluid specific conductivity
	Injected fluid pH

	ANNUALLY
REPORT	Each month's maximum and averaged injection pressures (psig)
	Each month's maximum and averaged annulus pressure(s) (psig)
	Each month's averaged injection rate (bbl/day)
	Fluid volume injected since the well began injecting (bbl)
	Written results of annual injected fluid analysis
	Sources of all fluids injected during the year

Records of all monitoring activities must be retained and made available for inspection at the following location:

Enduring Resources
475 Seventeenth Street, Suite 1500
Denver, CO 80202

## APPENDIX E

## PLUGGING AND ABANDONMENT REQUIREMENTS

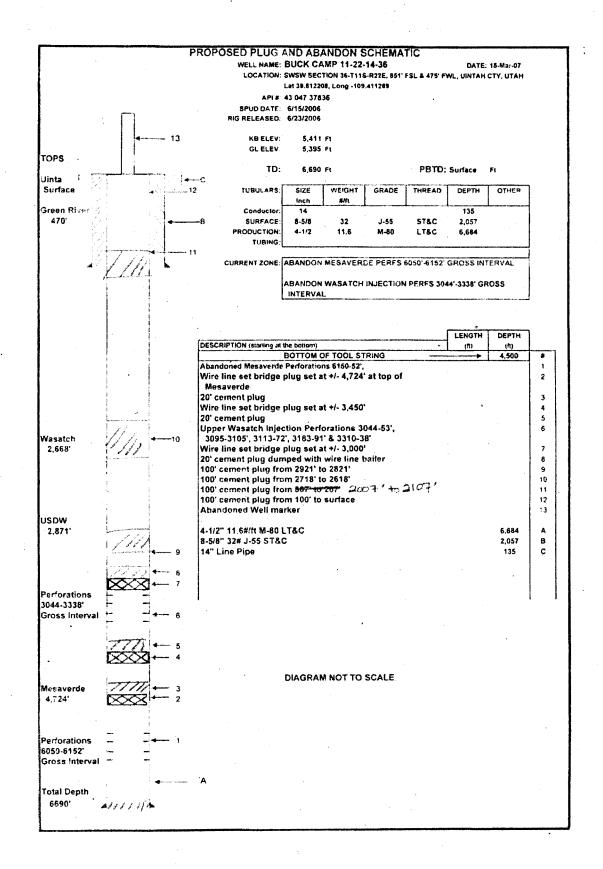
## PLUGGING AND ABANDONMENT REQUIREMENTS

The operator will file and obtain approval for a detailed P&A plan for approval prior to initiating any P&A operations. Typical P&A operations may be as follows:

- 1. Set wireline bridge plug above the injection interval at approximately 3000 ft. Pressure test the casing string and the bridge plug. Dump 20' cement on top of the bridge plug, abandoning the injection zone perforations.
- 2. Go in hole with tubing and pump four 100 ft cement plugs from 2921' to 2821' across USDW at 2871', from 2718' to 2618' across the Wasatch Top at 2668', from 2107' to 2007' across surface casing at 2057' and from 100' to surface. Cement will be Class G with additives. Each 100' plug will be approximately 8 sacks of cement.
- 3. Remove wellhead. Install plug and abandon marker. Remove all equipment and reclaim location.

Plug placement will be verified by tagging the top of the plug after the cement has had adequate time to set. If a bridge plug is used at the base of the cement plug, tagging the top of the plug is not necessary.

A plugging procedure will be submitted and approval obtained with the appropriate regulatory agencies before any plugging operations are conducted.



Buck Camp P&A revised.BMP

## **APPENDIX F**

## **CORRECTIVE ACTION REQUIREMENTS**

No corrective action is deemed necessary for this project.

## STATEMENT OF BASIS

## ENDURING RESOURCES LLC BUCK CAMP 11-22-14-36 WD UINTAH COUNTY, UT

#### EPA PERMIT NO. UT21062-07150

**CONTACT:** Patricia Pfeiffer

U. S. Environmental Protection Agency Ground Water Program, 8P-W-GW

1595 Wynkoop Street

Denver, Colorado 80202-1129

Telephone: 1-800-227-8917 ext. 312-6271

This STATEMENT OF BASIS gives the derivation of site-specific UIC Permit conditions and reasons for them. Referenced sections and conditions correspond to sections and conditions in the Permit.

EPA UIC permits regulate the injection of fluids into underground injection wells so that the injection does not endanger underground sources of drinking water. EPA UIC permit conditions are based upon the authorities set forth in regulatory provisions at 40 CFR Parts 144 and 146, and address potential impacts to underground sources of drinking water. Under 40 CFR 144.35 Issuance of this permit does not convey any property rights of any sort or any exclusive privilege, nor authorize injury to persons or property of invasion of other private rights, or any infringement of other Federal, State or local laws or regulations. Under 40 CFR 144 Subpart D, certain conditions apply to all UIC Permits and may be incorporated either expressly or by reference. General Permit conditions for which the content is mandatory and not subject to site-specific differences (40 CFR Parts 144, 146 and 147) are not discussed in this document.

Upon the Effective Date when issued, the Permit authorizes the construction and operation of injection wells so that the injection does not endanger underground sources of drinking water, governed by the conditions specified in the Permit. The Permit is issued for the operating life of the injection well or project unless terminated for reasonable cause under 40 CFR 144.39, 144.40 and 144.41. The Permit is subject to EPA review at least once every five (5) years to determine if action is required under 40 CFR 144.36(a).

## PART I. General Information and Description of Facility

**Enduring Resources LLC** 475 17th Street, Suite 1500 Denver, CO 80202

on

May 23, 2007

submitted an application for an Underground Injection Control (UIC) Program Permit or Permit Modification for the following injection well or wells:

In the original application, Enduring Resources proposed to drill and complete a Class II well. Enduring Resources made an economic decision, and requested modification of their original Permit to instead allow use of a pre-existing wellbore to be converted into an injection well. The pre-existing wellbore is located approximately 1 mile to the south of the originally propsed drill site.

The injection well will be used for the disposal of water produced from natural gas wells in the Rock House Field area, Uinta County, Utah. The injection fluids currently proposed for disposal will be produced water from the Wasatch and Mesaverde Formations.

The well is located within the exterior boundaries of the Uintah & Ouray Indian Reservation. Notice of intent of the EPA proposed permit decision will be published in the local newspaper and notices will be sent to the U.S. Bureau of Land Management-Vernal Office, Bureau of Indian Affairs, Ute Indian Tribe, and State of Utah-Natural Resources Division.

> Buck Camp 11-22-14-36 WD 851' FSL 475 ' FWL, SWSW S36, T11S, R22E Uintah County, UT

Regulations specific to Uintah-Ouray Indian Reservation injection wells are found at 40 CFR 147 Subpart TT.

The application, including the required information and data necessary to issue or modify a UIC Permit in accordance with 40 CFR Parts 144, 146 and 147, was reviewed and determined by EPA to be complete.

The Permit will expire upon delegation of primary enforcement responsibility (primacy) for applicable portions of the UIC Program to the Ute Indian Tribe or the State of Utah unless the delegated agency has the authority and chooses to adopt and enforce this Permit as a Tribal or State Permit.

TABLE 1.1 shows the status of the well or wells as "New", "Existing", or "Conversion" and for Existing shows the original date of injection operation. Well authorization "by rule" under 40 CFR Part 144 Subpart C expires automatically on the Effective Date of an issued UIC Permit.

MALIOR AUDIFICATION - PINAL

# TABLE 1.1

### **WELL STATUS / DATE OF OPERATION**

### **CONVERSION WELLS**

**Well Name** 

**Well Status** 

**Date of Operation** 

Buck Camp 11-22-14-36 WD

Conversion

N/A

PART II. Permit Considerations (40 CFR 146.24)

## **Hydrogeologic Setting**

The Uinta Basin is a major sedimentary basin of the western-central Rocky Mountain province. The basin is both a structural and a topographic basin located in northeastern Utah and northwest Colorado. The surface terrain is high mountain desert in the central part of the basin, and elevations vary from approximately 5,600 feet to over 11,000 feet above sea level. The topographic basin extends about 200 miles west to east and 173 miles north to south and has an area of about 10,000 square miles. It is strongly asymmetric, bounded by the Uinta Mountain uplift on the north and by the Wasatch Mountain uplift and the eastern faulted margin of the Wasatch Plateau on the west. Dip on the southwest and southeast flanks range from a few degrees to up to 15°. The north flank is highly complex, with major faulting and steep to overturned beds. The basin is considered to be a major producer of gas for the United States. The greatest portion of the energy resources are hydrocarbons, in the forms of coal, oil and gas, bituminous sandstone and limestone, and some gilsonite. The Uintah & Ouray Indian Reservation comprises just over 4 million acres of this area, reaching from the Utah-Colorado border west to the Wasatch Mountain Range.

Groundwater hydrology of the Uinta Basin is controlled primarily by the geologic structure of the region. Recharge of groundwater is greatest near the northern edge of the basin. On the south flank of the basin, most recharge is in the areas of highest altitude where precipitation is greatest. However, because of the low dip of the south flank, few formations except the Green River Formation are exposed to recharge. The major direction of ground water flow in this portion of the Uinta Basin is predominantly toward the White River. The White River is located approximately 8 miles to the north of the proposed well location. Intermittent drainages near the well feed into the White River. Bitter Creek is located within 500 feet of the proposed well location.

During the Eocene time, large amounts of sediment form adjacent higher areas were deposited in various lacustrine and fluvial environments in the basin. These sediments total more that 15,000 feet thick in the center of the basin and contain important mineral resources. During the Sevier/Laramide mountain building episode, deformation (thrust faulting and downwarping) occurred in the basin. The basin had several lakes that accumulated large amounts of organic material, and later heat and pressure of burial changed the organic-rich sediment into the thick oil shale of the middle and upper Green River Formation. The geologic formations of interest for this well, in descending order, are the Uinta and Green River Formations and the Wasatch Group.

The Uinta Formation is exposed at the surface in the area of the proposed well. The Uinta is comprised of thinly bedded calcareous shale, siltstone, and fine-grained sandstone. Hydraulic conductivity of the Uinta may be greatly enhanced by naturally occurring fractures.

The Green River Formation is comprised of sandstones, limestone and shale beds that were deposited along the edges and on the broad level floor of Lake Uinta as it expanded and contracted through time. Deposition in and around Lake Uinta consisted of open to marginal lacustrine sediments that make up the Green River Formation. The cyclic nature of deposition in the southern shore area resulted in numerous stacked deltaic deposits. Distributary mouth bars, distributary channels, and near shore bars are the primary producing sandstone reservoirs in the area (Ref: "Reservoir Characterization of the Lower Green River Formation, Southwest Uinta Basin, Utah Biannual Technical Progress Report, 4/1/99 9/30/99", by C. D. Morgan, Program Manager, November 1999, Contract DE AC26 98BC15103). Intervals in which porous sandstones occur are comprised of tight sandstone and interbedded shale forming the confining layers to the individual sandstone lenses. The top member of the Green River Formation, the Parachute Creek Member, is exposed at the surface approximately 4 miles from the well location. In some areas

there is complex intertonguing between the sediments of the underlying Wasatch and the Green River Formation. In the eastern portion of the basin, the Green River thins to about 1000 ft as the lower part pinches out. Gilsonite, a naturally occurring solid amorphous asphaltic bitumen originated by solidification of petroleum, occurs in veins that fill the vertical tensional fractures in this area that are rooted in the upper Green River oil shale.

The Wasatch Group, in descending order, is divided into the Colton, Flagstaff, and North Horn Formations. The Flagstaff Formation is not present at the proposed well location. The Colton is described as being primarily sandstone with mudstone (shale) and minor limestone. The sandstone units are characterized by mud chips, mud clasts, and discontinuous finer-grained beds. The Colton displays complex reservoir geometry, and heterogeneity is typical. The North Horn consists of conglomerate, sandstone, siltstone, and lacustrine limestone and shale. The basal unit consists of thin lacustrine shale and lime wackestone overlain by variegated floodplain mudstones and fine-grained fluvial sandstones.

#### **Geologic Setting (TABLE 2.1)**

TABLE 2.1
<b>GEOLOGIC SETTING</b>
Buck Camp 11-22-14-36 WD

Formation Name	Top (ft)	Base (ft)	TDS (mg/l)	Lithology
Uinta Formation	0 .	148	0 - 3,000	calcareous shale, claystone, sandstone, and bentonite beds
Green River Formation	148	2,673	0 - 3,000	greenish-gray shales with interbedded sandstone, marlstone, limestone, oil- shale, and trona (sodium carbonate)
Wasatch Formation	2,673	4,724	3,000 - 35,000	shale and claystone with interbedded conglomerate and sandstone
Mesaverde Formation	4,724	7,343	10,000 - 35,000	interbedded sandstone, siltstone, and shale with minor coal beds

#### Proposed Injection Zone(s) (TABLE 2.2)

An injection zone is a geological formation, group of formations, or part of a formation that receives fluids through a well. The proposed injection zones are listed in TABLE 2.2.

Injection will occur into an injection zone that is separated from USDWs by a confining zone which is free of known open faults or fractures within the Area of Review.

The Wasatch is the proposed injection zone. EPA has evaluated the capacity of the proposed injection zone to accept fluids, using porosity data and the effective height from the Buck Camp 11-22-14-36 production well. The portion of the Wasatch Formation proposed for injection was calculated to have a cumulative volume capacity of approximately 17,225,989 barrels within the quarter mile area of review.

An Injection Profile Survey, using either a spinner or tracer test, will be required prior to injection. Along with a profile of fluid loss versus depth, these data provide an indication of the absence of

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fluid channeling away from the well bore, and also can be used to determine an accurate volume that the formation can receive should an aquifer exemption be necessary.

Formation fluid sampling and analysis of the injection zone will be required prior to injection. Swab testing will be conducted, with conductivity monitored for consistency before the sample is collected. The operator will also provide a salinity profile on the completion fluids.

If the injection zone is shown to contain fluids of less than 10,000 mg/l total dissolved solids (TDS), an aquifer exemption will be required prior to approval for injection.

# TABLE 2.2 INJECTION ZONES Buck Camp 11-22-14-36 WD

Formation Name	Top (ft)	Base (ft)	TDS (mg/l)	Fracture Gradient (psi/ft)	Porosity	Exempted?*
Wasatch Formation	3,044	3,338	3,000 - 35,000	0.730		N/A
* C - Currently Exempted						

C - Currently Exempted
E - Previously Exempted
P - Proposed Exemption

N/A - Not Applicable

#### Confining Zone(s) (TABLE 2.3)

A confining zone is a geological formation, part of a formation, or a group of formations that limits fluid movement above the injection zone. The confining zone or zones are listed in TABLE 2.3.

Impermeable intervals of the Wasatch are identified as the confining zones that will prevent migration of fluid outside of the injection zone. The following estimated depths are based on the analysis of the porosity, gamma ray, resistivity, and caliper wireline logs for the Buck Camp 11-22-14-36 production well.

- 1. The upper confining zone, a 371 foot section of shale and claystone, is estimated at between 2673-3044 feet below ground surface.
- 2. The lower confining zone, a 362 foot section that consists primarily of shale and claystone, is estimated at between 3338-3700 feet below ground surface.

Gilsonite veins in the Uinta Basin vary in width from fractions of an inch to almost 18 feet, and average about 3 to 6 feet. These veins can be vertically continuous for hundreds to approximately 2,000 feet and more. Because there is concern that the fractures associated with these gilsonite veins could act as conduits for the fluid migration out of the proposed injection zone, a pressure falloff test and temperature survey will be required after 1 year and after 3 years of operation to evaluate continuing confinement of injection fluid within the injection zone. If confinement is not confirmed, EPA may consider limiting injection rates or prohibiting injection, if necessary to protect underground sources of drinking water.

# TABLE 2.3 CONFINING ZONES

**Buck Camp 11-22-14-36 WD** 

Formation Name	Formation Lithology	Top (ft)	Base (ft)
Wasatch Formation-Upper	primarily shale and claystone	2,673	3,044
Wasatch Formation-Lower	primarily shale and claystone	3,338	3,700

#### Underground Sources of Drinking Water (USDWs) (TABLE 2.4)

Aquifers or the portions thereof which contain less than 10,000 mg/l total dissolved solids (TDS) and are being or could in the future be used as a source of drinking water are considered to be USDWs. The USDWs in the area of this facility are identified in TABLE 2.4.

Based on the Technical Publication No. 92, Utah Department of Natural Resources, the base of USDWs at the proposed well location is found at 2,871 feet below ground surface. However, according to published information, water in the Uinta, Green River, and Wasatch aquifers has been found to range from fresh to briny. Therefore, unless water samples are collected and prove otherwise, these will be considered to be USDWs. The Douglas Creek-Renegade aquifer, consisting of the Douglas Creek Member of the Green River Formation and the Renegade Tongue of the Wasatch Formation, is a basin-wide aquifer underlying the Duchesne River-Uinta aquifer. The Douglas Creek-Renegade aquifer is thick, and has a hydraulic conductivity ranging from 0.05 to 0.25 ft/d in the southeastern part of the Uinta Basin (Holmes and Kimball, 1983).

# TABLE 2.4 UNDERGROUND SOURCES OF DRINKING WATER (USDW) Buck Camp 11-22-14-36 WD

Formation Name Formation Lithology		Top (ft)	Base (ft)	TDS (mg/l)	
Uinta Formation	calcareous shale, claystone, sandstone, and bentonite beds	0	148	0 - 3,000	
Green River	greenish-gray shales with interbedded sandstone, marlstone, limestone, oil- shale and trona (sodium carbonate); USGS Pub. 92 places base of USDW at 2,871 ft bgs	148	2,673	0 - 3,000	
Wasatch Formation	shale and claystone with interbedded conglomerate and sandstone	2,673	4,724	3,000 - 35,000	

## PART III. Well Construction (40 CFR 146.22)

# TABLE 3.1 WELL CONSTRUCTION REQUIREMENTS

Buck Camp 11-22-14-36 WD

Casing Type	Hole Size (in)	Casing Size (in)	Cased Interval (ft)	Cemented interval (ft)
line pipe	20.00	14.00	0 - 135	0 - 135
surface	12.25	8.63	0 - 2,057	0 - 2,057
longstring	7.88	4.50	0 - 6,683	1,450 - 6,622

The approved well completion plan will be incorporated into the Permit as APPENDIX A and will be binding on the Permittee. Modification of the approved plan is allowed under 40 CFR 144.52(a)(1) provided written approval is obtained from the Director prior to actual modification.

#### Casing and Cementing (TABLE 3.1)

The well construction plan was evaluated and determined to be in conformance with standard practices and guidelines that ensure well injection does not result in the movement of fluids into USDWs. Well construction details for this "new" injection well is shown in TABLE 3.1.

Remedial cementing may be required if the casing cement is shown to be inadequate by cement bond log or other demonstration of Part II (External) mechanical integrity.

#### **Tubing and Packer**

Injection tubing is required to be installed from a packer up to the surface inside the well casing. The packer will be set above the uppermost perforation. The tubing and packer are designed to prevent injection fluid from coming into contact with the outermost casing.

#### **Tubing-Casing Annulus (TCA)**

The TCA allows the casing, tubing and packer to be pressure-tested periodically for mechanical integrity, and will allow for detection of leaks. The TCA will be filled with fresh water treated with a corrosion inhibitor or other fluid approved by the Director.

#### **Monitoring Devices**

The permittee will be required to install and maintain wellhead equipment that allows for monitoring pressures and providing access for sampling the injected fluid. Required equipment may include but is not limited to: 1) shut-off valves located at the wellhead on the injection tubing and on the TCA; 2) a flow meter that measures the cumulative volume of injected fluid; 3) fittings or pressure gauges attached to the injection tubing and the TCA for monitoring the injection and TCA pressure; and 4) a tap on the injection line, isolated by shut-off valves, for sampling the injected fluid.

All sampling and measurement taken for monitoring must be representative of the monitored activity.

## PART IV. Area of Review, Corrective Action Plan (40 CFR 144.55)

Bitter Creek 1 is located in T11S-R23E-S30, approximately 1 mile away. It is the only plugged and abandoned well in the nearby area. The well was initially plugged in August 1961. In September 1961, the well was re-entered with plugs drilled out to 4758 ft bgs, then re-plugged. The well has casing set at 6804 ft bgs. A temperature survey concluded that the top of cement outside casing is at 4823 ft below ground surface. The engineer for the USGS reviewed the well and declared that "the following wells have been satisfactorily abandoned and approved by his agency."

After reviewing the State of Utah, Division of Water Rights web page, it was determined that Enduring Resources owns the only water well in the AOR. The well is drilled 600 ft below ground surface.

Gilsonite veins are displayed at the surface within 2.5 miles of the proposed well location.

Four production wells, (Buck Camp 12-22-21-2, Buck Camp (2-2) 12-22-31-2, Buck Camp 12-22-42-2, and Buck Camp (4-36) 11-22-11-36) are located within 1 mile of the proposed injection well's location. The open hole log data for all of these wells was reviewed for the presence of both the upper and lower confining zone. All of the wells reviewed had both of the confining zones present.

# TABLE 4.1 AOR AND CORRECTIVE ACTION

Well Name	Туре	Status (Abandoned Y/N)	Total Depth (ft)	TOC Depth (ft)	CAP Required (Y/N)
Buck Camp 11-22-14-36 WSW	Water Source	No	600 .	0	No

TABLE 4.1 lists the wells in the Area of Review ("AOR") and shows the well type, operating status, depth, top of casing cement ("TOC") and whether a Corrective Action Plan ("CAP") is required for the well.

#### **Area Of Review**

Applicants for Class I, II (other than "existing" wells) or III injection well Permits are required to identify the location of all known wells within the injection well's Area of Review (AOR) which penetrate the injection zone, or in the case of Class II wells operating over the fracture pressure of the formation, all known wells within the area of review that penetrate formations which may be affected by increased pressure. Under 40 CFR 146.6 the AOR may be a fixed radius of not less than one quarter (1/4) mile or a calculated zone of endangering influence. For Area Permits, a fixed width of not less than one quarter (1/4) mile for the circumscribing area may be used.

After reviewing the State of Utah, Division of Water Rights web page, it was determined that there are no drinking water wells in the AOR.

#### **Corrective Action Plan**

For wells in the AOR which are improperly sealed, completed, or abandoned, the applicant shall develop a Corrective Action Plan (CAP) consisting of the steps or modifications that are necessary to prevent movement of fluid into USDWs.

The CAP will be incorporated into the Permit as APPENDIX F and become binding on the permittee.

No corrective action is required.	
IND COFFECTIVE action is required.	

## PART V. Well Operation Requirements (40 CFR 146.23)

Enduring Resources will be the sole operator of the proposed Buck Camp 11-22-14-36 WD injection well. To monitor and record injection pressures, each well head will be equipped with a pressure chart that will be read by an approved Enduring Resources employee (pumper) on a weekly basis. Electronic data from the pressure chart will be checked daily for accuracy and compliance with system requirements.

Enduring Resources is requiring truck drivers hauling disposable water to the wells to be prequalified and be identified with a truck number and driver number. No driver will be able to enter the site without pre-authorization. No water will be accepted from any industrial process or from fracture fluids, or from any source other than those pre-screened and pre-approved by Enduring Resources and approved by the EPA. Enduring Resource will be maintaining chain of custody documentation.

The Buck Camp 11-22-14-36 WD injection well will be enclosed inside a chain link fence. All fence gates will be locked and keys or entrance codes will only be provided to authorized Enduring Resources employees or contractors.

	TABLE 5.1		
INJEC	CTION ZONE PRESSU	RES	
В	uck Camp 11-22-14-36 WD		
	Depth Used to Calculate MAIP (ft)	Fracture Gradient (psi/ft)	Initial MAIP (psi)
Formation Name	mair (it)	(pant)	(hai)
Wasatch Formation	3.044	0.730	855

#### Approved Injection Fluid

The approved injection fluid is limited to Class II injection well fluids pursuant to 40 CFR § 144.6(b). For disposal wells injecting water brought to the surface in connection with natural gas storage operations, or conventional oil or natural gas production, the fluid may be commingled and the well used to inject other Class II wastes such as drilling fluids and spent well completion, treatment and stimulation fluid. Injection of non-exempt wastes, including unused fracturing fluids or acids, gas plant cooling tower cleaning wastes, service wastes, and vacuum truck and drum rinsate from trucks and drums transporting or containing non-exempt waste, is prohibited.

Well Name	TDS (mg/L)	Specific Gravity (mg/L)	
Rock House 2D-36	25,487	1.018	
Rock House 3-32	30,746	1.021	
Rock House 4-36	31,853	1.022	
Rock House 6D-32	30,064	1.021	
Rock House 7-32	33,632	1.023	
Rock House 11-31	29,622	1.020	
Rock House 12D-32	24,922	1.017	
Archy Bench 12-23-42-16	8,395	1.006	
Archy Bench 11-24-24-32	5,087	1.005	

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Archy Bench 12-23-22-16	3,159	1.003	
East Bench 11-22-11-16	30,079	1.022	
Big Pack 12-21-22-2	51,392	1.036	
Buck Camp 11-22-11-25	48,953	1.035	•
Buck Camp 11-22-11-26	51,773	1.037	•
Buck Camp 11-22-11-36	49,578	1.034	
Buck Camp 12-22-21-2	30,026	1.021	
Buck Camp 31-5	11,307	1.009	
Buck Camp 6-15	8,985	1.007	
Buck Camp 3-12	45,574	1.032	
Hanging Rock 12-24-11-18	14,180	1:011	
Rainbow 11-24-31-16	8,036	1.006	
Rock Hopper 29-11	11,171	1.009	
Rock House 5-32	28,934	1.021	
Rock House 6D-32	5,781	1.004	
Rock House 10D-32	21,720	1.015	
Rock House 10-22-21-36	59,186	1.042	•
Rock House 10-22-13-36	34,672	1.025	
Rock House 10-22-14-36	34,012	1.024	
Rock House 10-22-31-36	43,384	1.031	
Stump Jumper 11-23-23-33B	9,363	1.007	
Thurston 12-1	22,763	1.016	,

#### **Injection Pressure Limitation**

Injection pressure, measured at the wellhead, shall not exceed a maximum calculated to assure that the pressure used during injection does not initiate new fractures or propagate existing fractures in the confining zones adjacent to the USDWs.

A step rate test will be required for the proposed injection zone to determine the fracture gradient for the zone. The initial Maximum Allowable Injection Pressure (MAIP) of 855 psig, based on an estimated fracture gradient of 0.73 psi/ft, will initially be approved until results of the step rate test are evaluated.

The applicant submitted injection fluid density and injection zone data which was used to calculate a formation fracture pressure and to determine the maximum allowable injection pressure (MAIP), as measured at the surface, for this Permit.

TABLE 5.1 lists the fracture gradient for the injection zone and the approved MAIP, determined according to the following formula:

$$FP = [fg - (0.433 * sg)] * d$$

FP = formation fracture pressure (measured at surface)

fg = fracture gradient (from submitted data or tests)

sq = specific gravity (of injected fluid)

d = depth to top of injection zone (or top perforation)

#### Injection Volume Limitation

Cumulative injected fluid volume limits are set to assure that injected fluids remain within the boundary of the exempted area. Cumulative injected fluid volume is limited when injection occurs into an aquifer that has been exempted from protection as a USDW.

If the injection zone is shown to contain fluids of less than 10,000 mg/L total dissolved solids (TDS), then an aquifer exemption decision will need to be made prior to approval for injection. If an aquifer exemption is approved, the cumulative injected fluid volume will need to be monitored to ensure that the injectate is not moving out of the authorized 1/4 mile radius.

#### Mechanical Integrity (40 CFR 146.8)

An injection well has mechanical integrity if:

- 1. there is no significant leak in the casing, tubing, or packer (Part I); and
- 2. there is no significant fluid movement into a USDW through vertical channels adjacent to the injection well bore (Part II).

The Permit prohibits injection into a well which lacks mechanical integrity.

The Permit requires that the well demonstrate mechanical integrity prior to injection and periodically thereafter. A demonstration of mechanical integrity includes both internal (Part I) and external (Part II). The methods and frequency for demonstrating Part I and Part II mechanical integrity are dependent upon well-specific conditions as explained below.

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# PART VI. Monitoring, Recordkeeping and Reporting Requirements

### Injection Well Monitoring Program

At least once a year the permittee must analyze a sample of the injected fluid for total dissolved solids (TDS), specific conductivity, pH, and specific gravity. This analysis shall be reported to EPA annually as part of the Annual Report to the Director. Any time a new source of injected fluid is added, a fluid analysis shall be made of the new source.

Instantaneous injection pressure, injection flow rate, cumulative fluid volume and TCA pressures must be observed on a weekly basis. A recording, at least once every thirty (30) days, must be made of the injection pressure, annulus pressure, monthly injection flow rate and cumulative fluid volume. This information is required to be reported annually as part of the Annual Report to the Director.

# PART VII. Plugging and Abandonment Requirements (40 CFR 146.10)

#### Plugging and Abandonment Plan

Prior to abandonment, the well shall be plugged in a manner that isolates the injection zone and prevents movement of fluid into or between USDWs, and in accordance with any applicable Federal, State or local law or regulation. Tubing, packer and other downhole apparatus shall be removed. Cement with additives such as accelerators and retarders that control or enhance cement properties may be used for plugs; however, volume-extending additives and gel cements are not approved for plug use. Plug placement shall be verified by tagging. Plugging gel of at least 9.6 lb/gal shall be placed between all plugs. A minimum 50 ft surface plug shall be set inside and outside of the surface casing to seal pathways for fluid migration into the subsurface. Within sixty (60) days after plugging the owner or operator shall submit Plugging Record (EPA Form 7520 13) to the Director. The Plugging Record must be certified as accurate and complete by the person responsible for the plugging operation. The plugging and abandonment plan is described in Appendix E of the Permit.

# PART VIII. Financial Responsibility (40 CFR 144.52)

#### **Demonstration of Financial Responsibility**

The permittee is required to maintain financial responsibility and resources to close, plug, and abandon the underground injection operation in a manner prescribed by the Director. The permittee shall show evidence of such financial responsibility to the Director by the submission of a surety bond, or other adequate assurance such as financial statements or other materials acceptable to the Director. The Regional Administrator may, on a periodic basis, require the holder of a lifetime permit to submit a revised estimate of the resources needed to plug and abandon the well to reflect inflation of such costs, and a revised demonstration of financial responsibility if necessary. Initially, the operator has chosen to demonstrate financial responsibility with:

Surety Bond, received October 10, 2006

Evidence of continuing financial responsibility is required to be submitted to the Director annually.

m 3160-5 gust 2007)

# UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010

Ri	UREAU OF LAND MANA	CEMENT			Expires.	July J	1, 2010
SUNDRY	NOTICES AND REPO	RTS ON W			<ol><li>Lease Serial No. UTU0284A</li></ol>		
Do not use the abandoned we	is form for proposals to II. Use form 3160-3 (AP	drill or to re D) for such	enter an proposals.		6. If Indian, Allottee of	or Tribe	Name Name
SUBMIT IN TRI	PLICATE - Other instruc	ctions on re	verse side.		7. If Unit or CA/Agre CHAPITA WEL	ement, LS UN	Name and/or No. <b>N</b> I
Type of Well     Oil Well	ier				8. Well Name and No. CHAPITA WELLS		1041-22
2. Name of Operator EOG RESOURCES INC	Contact: E-Mail: mary_mae	MARY A. MA stas@eogreso			9. API Well No. 43-047-38085		
3a. Address 600 17TH STREET SUITE 10 DENVER, CO 80202	00N	3b. Phone No Ph: 303-82	o. (include area cod 24-5526	le)	10. Field and Pool, or NATURAL BUT		
4. Location of Well (Footage, Sec., T	, R., M., or Survey Description	)			11. County or Parish,	and Sta	ate
Sec 22 T9S R22E SWNW 158 40.02438 N Lat, 109.43465 W					UINTAH COUN	TY, U	ΙT
12. CHECK APPI	ROPRIATE BOX(ES) TO	) INDICATE	NATURE OF	NOTICE, RI	EPORT, OR OTHE	R DA'	TA
TYPE OF SUBMISSION			TYPE (	OF ACTION			
☐ Notice of Intent	☐ Acidize	☐ Dee	pen	☐ Product	ion (Start/Resume)	7 0	Water Shut-Off
_	☐ Alter Casing	☐ Frac	cture Treat	□ Reclam	ation	<b>0</b> 7	Well Integrity
Subsequent Report	□ Casing Repair	□ Nev	v Construction	□ Recomp	olete		Other
☐ Final Abandonment Notice	□ Change Plans	☐ Plug	g and Abandon	☐ Tempor	arily Abandon	Pro	duction Start-up
i	□ Convert to Injection	🗖 Plug	g Back	■ Water I	Disposal		
If the proposal is to deepen directional Attach the Bond under which the wor following completion of the involved testing has been completed. Final Abdetermined that the site is ready for fit.  The referenced well was turned report for drilling and completion.	k will be performed or provide operations. If the operation res andonnent Notices shall be file nal inspection.)  d to sales on 1/21/2008. In operations performed on operations performed of the true and correct.	the Bond No. or sults in a multipled only after all Please see the on the subject	n file with BLM/Ble completion or re requirements, inclu- ne attached open it well.	IA. Required sul completion in a r iding reclamation erations sumn	osequent reports shall be new interval, a Form 316 n, have been completed, a	filed w 0-4 sha	vithin 30 days all be filed once
	Electronic Submission # For EOG F	58206 verified RESOURCES	I by the BLM We INC, sent to the	ell Information Vernal	System		
Name(Printed/Typed) MARY A. I	MAESTAS		Title REGU	LATORY AS	SISTANT		
Signature W (Hoptronic)	ubmission are an		Date 01/22/	2008			
	THIS SPACE FO	R FEDERA	L OR STATE	OFFICE U	SE		
Approved By			Title				Date
Conditions of approval, if any, are attached certify that the applicant holds legal or equ which would entitle the applicant to condu-	itable title to those rights in the		Office				
Title 18 U.S.C. Section 1001 and Title 43 States any false, fictitious or fraudulent s					ke to any department or	agency	of the United

\*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\*

JAN 2 5 2008

#### WELL CHRONOLOGY REPORT

Report Generated On: 01-22-2008

Well Name	CWU 1041-22	Well Type	DEVG	Division	DENVER
Field	CHAPITA DEEP	API#	43-047-38085	Well Class	COMP
County, State	UINTAH, UT	Spud Date	11-22-2007	Class Date	
Tax Credit	N	TVD / MD	9,600/ 9,600	Property #	056830
Water Depth	0	Last CSG	2.375	Shoe TVD / MD	0/0
KB / GL Elev	4,895/ 4,882				
Location	Section 22, T9S, R22E, SWN	W, 1585 FNL & 240 F	WL		

<b>Event No</b>	1.0		Description	DRILL & COMPLE	TE		
Operator	EOG RESOU	RCES, INC	WI %	56.421	NRI %	48.22	3
AFE No	303407		AFE Total	1,838,100	DHC/CV	<b>VC</b> 91	2,100/ 926,000
Rig Contr	TRUE	Rig Name	TRUE #27	Start Date	05-05-2006	Release Date	12-02-2007
05-05-2006	Reported B	sy SH	IARON WHITLOCK				
DailyCosts: Da	rilling \$0	)	Completi	<b>ion</b> \$0	Daily '	Total \$0	
Cum Costs: D	rilling \$0	)	Completi	<b>ion</b> \$0	Well T	Total \$0	
MD	0 <b>TVD</b>	0	Progress	) Days	0 <b>MW</b>	0.0 <b>Vi</b>	isc 0.0
Formation:		<b>PBTD</b> : 0	.0	Perf:		PKR Depth:	0.0

Activity at Report Time: LOCATION DATA

Start End Hrs Activity Description 06:00 06:00 24.0 LOCATION DATA

1585' FNL & 240' FWL (SW/NW)

SECTION 22, T9S, R22E UINTAH COUNTY, UTAH

LAT 40.024383, LONG 109.434653 (NAD 83) LAT 40.024419, LONG 109.433969 (NAD 27)

RIG: TRUE #27

OBJECTIVE: 9600' TD, MESAVERDE

DW/GAS

CHAPITA WELLS DEEP PROSPECT

DD&A: CHAPITA DEEP NATURAL BUTTES FIELD

LEASE: U-0284-A

ELEVATION: 'NAT GL, 4881.9' PREP GL (DUE TO ROUNDING THE PREP GL IS 4882'), 4895' KB (13')

EOG WI 52.4206%, NRI 48.22336%

10-01-2007 Reported By

BRYON TOLMAN

DailyCosts: Drillin	g \$38,000	)	Con	pletion	\$0		Dail	y Total	\$38,000	
Cum Costs: Drillin	•			pletion	\$0			Total	\$38,000	
MD 0	TVD	0	Progress	0	Days	0	MW	0.0	Visc	0.0
Formation :		<b>PBTD :</b> 0.	Ü	v	Perf:	Ü	171 44	PKR De		0.0
Activity at Report			O .		1011.			I KK De	<b>pen :</b> 0.0	
Start End		vity Desci	rintion							
06:00 06:00	24.0 LOCA	•	•							
	Reported By		RRY CSERE							
DailyCosts: Drillin	•	)	Con	pletion	\$0		Dail	y Total	\$38,000	
Cum Costs: Drillin	g \$38,000	)	Con	pletion	\$0		Well	Total	\$38,000	
<b>MD</b> 0	TVD	0	Progress	0	Days	0	MW	0.0	Visc	0.0
Formation :	P	<b>PBTD</b> : 0.	0		Perf:			PKR De	<b>pth:</b> 0.0	
Activity at Report	Fime: BUILD LO	CATION								
Start End	Hrs Activ	vity Desci	ription							
06:00 06:00	24.0 30%	COMPLET	E.							
0-03-2007	Reported By	TE	RRY CSERE							
DailyCosts: Drillin	<b>s</b> \$0		Con	pletion	\$0		Daily	y Total	\$0	
Cum Costs: Drillin	g \$38,000	)	Con	pletion	\$0		Well	Total	\$38,000	
<b>MD</b> 0	TVD	0	Progress	0	Days	0	$\mathbf{MW}$	0.0	Visc	0.0
Formation :	P	<b>PBTD</b> : 0.	0		Perf:			PKR De	oth: 0.0	
Activity at Report	<b>ľime։</b> BUILD LO	CATION								
Start End		vity Descr	ription							
06:00 06:00	24.0 50%	•	-							
0-04-2007	Reported By	TE	RRY CSERE/K	AYLENE	GARDNER					
DailyCosts: Drillin	\$0		Com	pletion	\$0		Daily	y Total	\$0	
Cum Costs: Drillin	_	)		pletion	\$0		-	Total	\$38,000	
<b>MD</b> 40	TVD	40	Progress	0	Days	0	MW	0.0	Visc	0.0
						v				
Formation :	P	<b>PBTD</b> : 0.0	0		Perf:	v	11211	PKR De		
					•	v	1,2,1			
Activity at Report	Time: SPUD NOT	TIFICATIO	N		•	v				
Activity at Report	Fime: SPUD NOT Hrs Activ 24.0 SHOO OF 14	TIFICATIO	on ription DAY. – CRAIG	NT TO SU	Perf :  TABOUT SERVERFACE WITH	/ICE SPUD READY M	A 20" HOLI X. LESTER	PKR Dej E ON 10/3/20 E FARNSWOF	oth: 0.0 07 @ 12:30 PM RTH NOTIFIED	
Activity at Report Start End 06:00 06:00	Fime: SPUD NOT Hrs Activ 24.0 SHOO OF 14	TIFICATIO  vity Descr  OTING TO  4" CONDU  IELS W/UI	on <b>ription</b> DAY. – CRAIG ICTOR. CEMEI	NT TO SU	Perf :  TABOUT SERVERFACE WITH	/ICE SPUD READY M	A 20" HOLI X. LESTER	PKR Dej E ON 10/3/20 E FARNSWOF	oth: 0.0 07 @ 12:30 PM RTH NOTIFIED	
Activity at Report Start End 06:00 06:00	Hrs Activ 24.0 SHOO OF 14 DANI Reported By	TIFICATIO  vity Descr  OTING TO  4" CONDU  IELS W/UI	PIDION  CIPTION  DAY. – CRAIG  CTOR. CEME  DOGM AND M  RRY CSERE	NT TO SU	Perf :  TABOUT SERVERFACE WITH	/ICE SPUD READY M	A 20" HOLI X. LESTER D 10/3/200	PKR Dej E ON 10/3/20 E FARNSWOF	oth: 0.0 07 @ 12:30 PM RTH NOTIFIED	
Activity at Report Start End 06:00 06:00  10-05-2007  Daily Costs: Drilling	Hrs Activ 24.0 SHOO OF 14 DANI  Reported By 3	TIFICATION VITY Descripting TO 14" CONDUITELS W/UI	PINDON  PIPITION  DAY. – CRAIG  CTOR. CEMEN  DOGM AND M  RRY CSERE  Com	NT TO SUI	Perf:  ABOUT SERV RFACE WITH LEE W/BLM C	/ICE SPUD READY M	A 20" HOLI X. LESTER D 10/3/200 <b>Daily</b>	PKR Dep E ON 10/3/20 E FARNSWOR 7 @ 11:30 AM	oth: 0.0 07 @ 12:30 PM RTH NOTIFIED	
Activity at Report Start End 06:00 06:00  10-05-2007  Daily Costs: Drilling Cum Costs: Drilling	Hrs Activ 24.0 SHOO OF 14 DANI  Reported By 3	TIFICATION VITY Descripting TO 14" CONDUITELS W/UI	PINDON  PIPITION  DAY. – CRAIG  CTOR. CEMEN  DOGM AND M  RRY CSERE  Com	NT TO SUICHAEL I	Perf:  CABOUT SERV RFACE WITH LEE W/BLM C	/ICE SPUD READY M	A 20" HOLI X. LESTER D 10/3/200 <b>Daily</b>	PKR Dep E ON 10/3/20 E FARNSWOR 7 @ 11:30 AM	oth: 0.0  07 @ 12:30 PM  RTH NOTIFIED  (	CAROL
Activity at Report of Start End of:00 06:00 10-05-2007 Daily Costs: Drilling Cum Costs: Drilling MD 40	Hrs Activ 24.0 SHOO OF 14 DANI  Reported By g \$0 g \$38,000	TIFICATIO vity Descr OTING TO 1" CONDU IELS W/UI TE	ciption DAY. – CRAIG ICTOR. CEME DOGM AND M RRY CSERE Com Com Progress	NT TO SUITCHAEL I	Perf:  TABOUT SERV RFACE WITH LEE W/BLM C  \$0 \$0	VICE SPUD READY M OF THE SPU	A 20" HOLI X. LESTER D 10/3/200' Daily Well	PKR Department of PKR Departme	oth: 0.0  12:30 PM  RTH NOTIFIED  1.  \$0  \$38,000  Visc	
Activity at Report Start End 06:00 06:00  10-05-2007  Daily Costs: Drilling Cum Costs: Drilling MD 40  Formation:	Hrs Active 24.0 SHOO OF 14 DANI Reported By g \$0 \$38,000 TVD	rification vity Descripting to the conduction of	ciption DAY. – CRAIG ICTOR. CEME DOGM AND M RRY CSERE Com Com Progress	NT TO SUITCHAEL I	Perf:  TABOUT SERV RFACE WITH LEE W/BLM C  \$0 \$0 Days	VICE SPUD READY M OF THE SPU	A 20" HOLI X. LESTER D 10/3/200' Daily Well	PKR Dep E ON 10/3/2003 FARNSWOR 7 @ 11:30 AM Total 0.0	oth: 0.0  12:30 PM  RTH NOTIFIED  1.  \$0  \$38,000  Visc	CAROL
06:00 06:00  10-05-2007  DailyCosts: Drillin Cum Costs: Drillin	Hrs Activ 24.0 SHOO OF 14 DANI  Reported By g \$0 g \$38,000  TVD  F  Time: BUILD LO	rification vity Descripting to the conduction of	ciption DAY. – CRAIG ICTOR. CEMEI DOGM AND M RRY CSERE Com Com Progress	NT TO SUITCHAEL I	Perf:  TABOUT SERV RFACE WITH LEE W/BLM C  \$0 \$0 Days	VICE SPUD READY M OF THE SPU	A 20" HOLI X. LESTER D 10/3/200' Daily Well	PKR Dep E ON 10/3/2003 FARNSWOR 7 @ 11:30 AM Total 0.0	oth: 0.0  12:30 PM  RTH NOTIFIED  1.  \$0  \$38,000  Visc	CAROL

Reported By TERRY CSERE 10-08-2007 \$0 \$0 Completion \$0 **Daily Total DailyCosts: Drilling** \$38,000 \$0 Well Total \$38,000 Completion **Cum Costs: Drilling** 0.0 0.0 0 n MW 40 40 Visc MD TVD **Progress** Days PKR Depth: 0.0 **PBTD**: 0.0 Perf: Formation: Activity at Report Time: BUILD LOCATION/WORT End **Activity Description** 24.0 LOCATION COMPLETE, WORT. 06:00 06:00 10-26-2007 JERRY BARNES Reported By DailyCosts: Drilling \$188,259 Completion \$0 **Daily Total** \$188,259 Well Total \$226,259 **Cum Costs: Drilling** \$226,259 Completion \$0 0 MW0.0 0.0 MD 2,232 TVD 2,232 **Progress** Days Visc **PBTD**: 0.0 Perf: PKR Depth: 0.0 Formation: **Activity at Report Time: WORT** 

Start End Hrs Activity Description

06:00 06:00

Well Name: CWU 1041-22

24.0 MIRU PRO PETRO AIR RIG #9 ON 10/10/2007. DRILLED 12–1/4" HOLE TO 2280' GL. ENCOUNTERED WATER @ 1470'. RAN 52 JTS (2219.20') OF 9–5/8", 36.0#/FT, J–55, ST&C CASING WITH TOP–CO GUIDE SHOE AND FLOAT COLLAR. 8 CENTRALIZERS SPACED MIDDLE OF SHOE JOINT AND EVERY COLLAR TILL GONE. LANDED @ 2232' KB, RAN 200' OF 1" PIPE DOWN BACK SIDE. RDMO AIR RIG.

MIRU PRO PETRO CEMENTING. HELD SAFETY MEETING. PRESSURE TESTED LINES AND CEMENT VALVE TO 1000 PSIG. PUMPED 165 BBLS FRESH WATER & 20 BBLS GELLED WATER FLUSH AHEAD OF CEMENT. MIXED & PUMPED 200 SX (136 BBLS) OF PREMIUM LEAD CEMENT W/16% GEL, 10 #/ SX GILSONITE, 3 #/ SX GR-3, 3% SALT & ½ #/ SX FLOCELE. MIXED CEMENT @ 11.0 PPG W/YIELD OF 3.82 CF/SX.

Property: 056830

TAILED IN W/200 SX (42 BBLS) OF PREMIUM CEMENT W/2% CACL2 & ¼ #/ SX FLOCELE. MIXED TAIL CEMENT @ 15.6 PPG W/YIELD OF 1.18 CF/SX. DISPLACED CEMENT W/168.1 BBLS FRESH WATER. BUMPED PLUG W/700# @ 6:34 AM, 10/14/2007. CHECKED FLOAT, FLOAT HELD. SHUT-IN CASING VALVE. BROKE CIRCULATION 105 BBLS INTO DISPLACEMENT. LOST CIRCULATION 142 BBLS INTO DISPLACEMENT. RE-ESTABLISHED CIRCULATION 151 BBLS INTO DISPLACEMENT. NO CEMENT TO SURFACE. HOLE FELL BACK WHEN PLUG BUMPED.

TOP JOB # 1: PUMP DOWN 200' OF 1" PIPE. MIXED & PUMPED 100 SX (20 BBLS) OF PREMIUM CEMENT W/4% CACL2 & ¼ #/ SX FLOCELE. MIXED CEMENT @ 15.6 PPG W/YIELD OF 1.18 CF/SX. NO RETURNS. WOC 3 HRS 30 MINUTES.

TOP JOB # 2: MIXED & PUMPED 50 SX (10 BBLS) OF PREMIUM CEMENT W/4% CACL2 & ¼ #/ SX FLOCELE. MIXED CEMENT @ 15.6 PPG W/YIELD OF 1.18 CF/SX. NO RETURNS. WOC 2 HRS.

TOP JOB # 3: MIXED & PUMPED 100 SX (20 BBLS) OF PREMIUM CEMENT W/4% CACL2 & ¼ #/ SX FLOCELE. MIXED CEMENT @ 15.6 PPG W/YIELD OF 1.18 CF/SX. NO RETURNS. WOC 2 HRS.

TOP JOB # 4: MIXED & PUMPED 150 SX (30 BBLS) OF PREMIUM CEMENT W/2% CACL2 & ¼ #/ SX FLOCELE. MIXED CEMENT @ 15.6 PPG W/YIELD OF 1.18 CF/SX. NO RETURNS. WOC 2 HRS.

TOP JOB # 5: MIXED & PUMPED 150 SX (30 BBLS) OF PREMIUM CEMENT W/2% CACL2 &  $\frac{1}{4}$  #/ SX FLOCELE. MIXED CEMENT @ 15.6 PPG W/YIELD OF 1.18 CF/SX. HOLE FILLED & STOOD FULL. RDMO PRO PETRO CEMENTERS.

PREPARED LOCATION FOR ROTARY RIG. WORT. WILL DROP FROM REPORT UNTIL FURTHER ACTIVITY.

MIRU GLENNS WIRELINE. RUN IN HOLE W/STRAIGHT HOLE SURVEY. TAG CEMENT @ 2077'. PICKED UP TO 2057' & TOOK SURVEY. 2 DEGREE.

LESTER FARNSWORTH NOTIFIED JAMIE SPARGER W/BLM OF THE SURFACE CASING & CEMENT JOB ON 10/13/2007 @ 11:50 AM.

11-22-20	007 Re	ported By	PI	ETE AYOTTE							
DailyCos	ts: Drilling	\$42,2	:94	Con	pletion	\$0		Dail	y Total	\$42,294	
Cum Cos	sts: Drilling	\$268,	,553	Con	pletion	\$0		Well	Total	\$268,553	
MD	2,232	TVD	2,232	Progress	0	Days	0	MW	0.0	Visc	0.0
Formatio	n :		<b>PBTD</b> : 0	0.0		Perf:			PKR De <sub>l</sub>	<b>pth:</b> 0.0	
Activity a	at Report Ti	me: TEST BO	OP								
Start	End	Hrs Ac	tivity Desc	ription							
06:00	07:00	1.0 PR	EPARE FOR	R RIG MOVE. H	ELD SAFI	ETY MEETIN	G WITH JC	NES TRUCI	KERS.		
07:00	10:30	3.5 LO	AD OUT RI	G AND ROAD I	MILETO	CWU 1041-	22.				
10:30	14:00	3.5 SE	T IN RIG, T	RUCKS OFF LO	CATION	AT 1400 HRS.					
14:00	23:00	9.0 RIC	3 UP. DERR	ICK RAISED AT	Г 15:30 НБ	RS. RIG ON D	AYWORK .	AT 2300 HRS	S., 11/21/2007		
23:00	00:00	1.0 NII	PPLE UP BO	)P							
00:00	06:00			MIE SPARGER V TEST AT MIDNI		M WAS NOTII	FIED VIA P	HONE MES	SAGE AT 160	0 HRS. AND R	EMINDEI
		SH	OULD BE D	OONE TESTING	AT 0630 I	HRS.					
				AND LOWER KI 50 PSI FOR 10 N		•					OR 10
		FU.	LL CREWS	PLUS 5 EXTRA	HANDS	FOR RIG MO	VE. NO AC	CIDENTS.			
		SA	FETY MEE	TINGS ON STEA	AM AND I	HIGH PRESSI	URE LINES	i.			
		FU:	EL ON HAN	ND 6675 GALS.,	USED 259	9.					
		UN	MANNED I	LOGGER 1 DAY	r .•						
		BO	ILER 5 HRS								
			ILEK 3 FIK	5.							
11-23-26	007 Re	ported By		S. ETE AYOTTE							· · · · · · · · · · · · · · · · · · ·
	007 Ret		PI	ETE AYOTTE	pletion	\$0		Daily	7 Total	\$55,602	
DailyCost		ported By	PF 502	ETE AYOTTE  Com	pletion	\$0 \$0		•	7 Total Total	\$55,602 \$324,155	<u> </u>
•	ts: Drilling	eported By \$55,6	PF 502	ETE AYOTTE  Com	-		1	•			27.0
DailyCost	ts: Drilling ts: Drilling 3,539	\$55,6 \$324,	PF 602 ,155	Com Com Progress	pletion	\$0	1	Well	Total	\$324,155 <b>Visc</b>	27.0
DailyCost Cum Cost MD Formation	ts: Drilling ts: Drilling 3,539	\$55,6 \$324,	PF 502 ,155 3,539 PBTD: 0	Com Com Progress	pletion	\$0 Days	1	Well	<b>Total</b> 8.6	\$324,155 <b>Visc</b>	27.0
DailyCost Cum Cost MD Formation Activity a	ts: Drilling ts: Drilling 3,539	\$55,6 \$324, TVD	PF 502 ,155 3,539 PBTD: 0	Com Com Progress	pletion	\$0 Days	1	Well	<b>Total</b> 8.6	\$324,155 <b>Visc</b>	27.0
DailyCost Cum Cost MD Formation Activity a	ts: Drilling ts: Drilling 3,539 n: t Report Tin	\$55,6 \$324, TVD me: DRILLIN Hrs Ac	PE 502 ,155 3,539 PBTD: 0	Com Com Progress	apletion 1,307	\$0  Days  Perf:	1	Well	<b>Total</b> 8.6	\$324,155 <b>Visc</b>	27.0
DailyCost Cum Cost MD Formation Activity a	ts: Drilling ts: Drilling 3,539 on: t Report Til	\$55,6 \$324, TVD  me: DRILLIN  Hrs Ac  0.5 TES	PE 502 ,155 3,539 PBTD: 0	Com Com Progress .0 cription	apletion 1,307	\$0  Days  Perf:	1	Well	<b>Total</b> 8.6	\$324,155 <b>Visc</b>	27.0
Daily Cost Cum Cost MD Formation Activity a Start 06:00	ts: Drilling ts: Drilling 3,539 n: t Report Tin End 06:30	\$55,6 \$324, TVD  me: DRILLIN  Hrs Ac  0.5 TES  0.5 INS	PF 502 5155 3,539 PBTD: 0 NG tivity Desc ST CASING	Com Com Progress .0 cription	apletion 1,307 DR 30 MIN	\$0  Days  Perf:		Well MW	<b>Total</b> 8.6	\$324,155 <b>Visc</b>	27.0

12:00

12:30

13:00

15:00

11:30

12:00

12:30

13:00

0.5 RIG DOWN PICKUP MACHINE.

2.0 DRILL CEMENT/FLOAT EQUIP.

0.5 INSTALL ROTATING HEAD.

0.5 SERVICE RIG.

1:	5:00	15:30	0.5 I	PERFORM FIT TO 250 PSI. EQUIVALENT TO 10.5 PPG AT SHOE.
15	5:30	18:00		DRILL FROM 2232' TO 2539'. 307' AT 122.8'/HR. 18K WOB, 55–65 RPM, 67 MOTOR RPM. 950 PSI AT 125 STROKES OFF BOTTOM, #1 PUMP. 420 GPM.
18	3:00	18:30	0.5	SURVEY, 1*
18	3:30	05:30		DRILL FROM 2539' TO 3539', 1000' AT 90.9'/HR, 18–20K WOB, 55–65 RPM, 67 MOTOR RPM, 1440 PSI OFF BOTTOM AT 125 STROKES, #1 PUMP, 200–350 PSI DIFFERENTIAL, 420 GPM.
0.5	5:30	06:00	0.5 5	SURVEY.

NO ACCIDENTS, FULL CREWS.

SAFETY MEETINGS ON PICKING UP PIPE AND TRIPPING HAZARDS.

FUEL ON HAND 5535 GALS., USED 1140.

MUD WT.8.9 PPG, VIS 30.

WASATCH TOP AT 4756'.

BOP DRILL HELD ON MORN. WELL SECURED 98 SECS.

UNMANNED LOGGER DAYS 2.

CHECKED COM.

NO FLOW OR LOSSES.

BOILER 16.

06:00	18.0 SPUD 7 7/8" HOLE AT 15:30 HRS, 11/22/07.
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11-24-2007	Re	eported By	F	PETE AYOTTE							
DailyCosts: D	rilling	\$31,7	222	Con	npletion	\$0		Daily	Total	\$31,722	
Cum Costs: D	rilling	\$355	,877	Con	npletion	\$0		Well	<b>Fotal</b>	\$355,877	
MD	5,235	TVD	5,235	Progress	1,696	Days	2	MW	9.3	Visc	32.0
Formation:			PBTD:	0.0		Perf:			PKR Dej	oth: 0.0	

Activity a	t Report Ti	me: DRI	LLING
Start	End	Hrs	Activity Description
06:00	12:30	6.5	DRILL FROM 3539' TO 4137', 598' AT 92'/HR., 18–22K WOB, 55–65 RPM, MOTOR RPM 67, 1400 PSI AT 125 STROKES OFF BOTTOM. 200–375 PSI DIFFERENTIAL. 420 GPM.
12:30	13:00	0.5	SERVICE RIG. OPERATE COM., PIPE RAMS.
13:00	17:30	4.5	DRILL FROM 4137' TO 4545'. 408' AT 90'/HR. SAME PARAMETERS AS ABOVE.
17:30	18:00	0.5	SURVEY 2*. NO FLOW.
18:00	06:00	12.0	DRILL FROM 4545' TO 5235', 690' AT 57'/HR.,18–23K WOB, 55–65 RPM, MOTOR RPM 67, 1800 PSI AT 126 STROKES, #1 PUMP OFF BOTTOM, 150–300 PSI DIFFERENTIAL. 420 GPM.
			FULL CREWS. 1 REPORTABLE MINOR ACCIDENT: NO HOSPITAL WAS REQUIRED.
			SAFETY MEETINGS ON LIFTING AND TEAMWORK.
			FUEL ON HAND 3889 GALS., USED 1646.
			MUD WT 9.9 PPG., VIS 34.
			WASATCH TOP AT 4756, CHAPITA WELLS 5343'.
			BOP DRILL DAYS, SECURED IN 100 SECS.
			BG GAS 30U, NO CONN GAS.
			UNMANNED LOGGER DAYS 3.
			NO FLOW OR LOSSES.
			BOILER 17 HRS.

11-25-2007 Reported By PETE AYOTTE

DailyCost	s: Drilling	\$3	7,867	Con	npletion	\$0		Dai	ly Total	\$37,867	
Cum Cost	s: Drilling	\$3	93,745	Con	npletion	\$0		Wel	l Total	\$393,745	
MD	6,272	TVD	6,272	Progress	1,037	Days	3	MW	9.3	Visc	33.0
Formation	ı:		<b>PBTD</b> : 0	0.0		Perf:			PKR De	<b>pth</b> : 0.0	
Activity at	t Report Ti	me: DRIL	LING								
Start	End	Hrs	Activity Desc	ription							
06:00	09:30			5235' TO 5376' PUMP, OFF BO						PM. 1650 PSI A	Т 125
09:30	11:00	1.5 1	LOST COMPL	ETE RETURNS	FOR 20 N	IINS., REGAI	N CIRCUL	ATION, BU	ILD VOLUMI	E, LOST 190 BI	BLS.
11:00	14:00	3.0 1	DRILL FROM	5376' TO 5514'	, 138' AT 4	6'/HR. SAME	PARAMET	TERS AS AE	BOVE. NO LO	SSES.	
14:00	14:30	0.5 1	RIG SERVICE								
14:30	06:00		STROKES, OFI  1 ACCIDENT(TO SAFETY MEETED ON HAN MUD WT 9.8 P BUCK CANYO BG GAS 70 U, UN MANNED OPERATED CO NO LOSSES SI LOST 230 BBL USED 150 BBL	F BOTTOM, #1 FEVIS WALKE FINGS ON ME FID 2319 GALS, PG, VIS 36, LC ON TOP AT 6010 NO CONN GA. LOGGER DAY DM, BOILER 2- INCE DRINK A S MUD YESTE LS EXISTING S	PUMP, 41 R), FULL ( THANOL 1 USED 157 EM 3%. O'. S, HAD GA S 3. 4 HRS. T 5700'(12	7 GPM. LOST CREWS. USE AND WO 70. AS DETECTO HRS), WILL	A0 BBLS I	MUD AT 570 A CLEAN I ED LAST NI AKING OU	00°. ENVIRONME GHT. T LCM THIS	NT.	124
11-26-200	07 Re	ported B	y PE	ETE AYOTTE							
DailyCosts	s: Drilling	\$6	1,287	Con	apletion	\$0			y Total	\$61,287	
Cum Cost	s: Drilling	\$4:	55,032	Con	apletion	\$0		Wel	l Total	\$455,032	
MD	6,830	TVD	6,830	Progress	558	Days	4	$\mathbf{M}\mathbf{W}$	9.8	Visc	36.0
Formation	1:		<b>PBTD</b> : 0	.0		Perf:			PKR De	<b>pth</b> : 0.0	
Activity at	t Report Tii	me: DRILI	LING								
Start	End	Hrs A	Activity Desc	ription					-		
06:00	08:30			6272' TO 6334'. ROKES. 150–30				65 RPM, MG	OTOR RPM 67	7, 1900 <b>PSI OF</b> F	FBOTTOM
08:30	09:30	1.0 1	MIX AND PUM	1P PILL, DROP	SURVEY,	BLOW KELL	Y.				
09:30	13:30	4.0 (	OPERATE COM	M, TRIP OUT, T	IGHT FRO	OM 5500' TO 5	5420'.				
13:30	14:30	1.0	OPERATE PIPI	E AND BLIND	RAMS, CH	IANGE BITS	AND MOTO	OR, LAY DO	OWN REAME	RS.	
14:30	18:30	4.0	TRIP IN, BREA	AK CIRCULATI	ON AT 21	15, HOLE IN	GOOD SHA	PE.			
18:30	19:00	0.5	SAFETY REAM	м 80' то вотт	OM.						
19:00	22:30			6334' TO 6571'. ES, #1 PUMP, 1	•	,	•	,	7 MOTOR RP	M, 1820 PSI OF	<b>F</b> ВОТТОМ
22:30	23:00	0.5 I	RIG SERVICE								
23:00	06:00	7.0 I	DRILL FROM	6571' TO 6830',	, 259' AT 3	7'/HR, SAME	PARAMET	ERS AS AE	OVE.		
		I	FULL CREWS,	NO ACCIDEN	TS.						

FUEL ON HAND 5311, USED 1408.

BOP DRILL HELD ON MORN TOUR, 90 SECS.

 $BG\ GAS\ 37U, TRIP\ GAS\ 250U.$ 

MUD WT 10.1, VIS 36, LCM TRC.

UN MANNED LOGGER 4 DAYS.

NO LOSSES OR FLOWS.

BOILER 24 HRS.

NORTH HORN TOP AT 6635'.

11-27-20	007 Re	ported By	PE	ETE AYOTTE							
DailyCos	ts: Drilling	\$78,	,590	Con	pletion	\$2,650		Daily	Total	\$81,240	
Cum Cos	ts: Drilling	\$533	3,623	Con	pletion	\$2,650		Well	Total	\$536,273	
MD	7,525	TVD	7,525	Progress	695	Days	5	MW	10.4	Visc	38.0
Formatio	n:		<b>PBTD</b> : 0	.0		Perf:			PKR Dep	oth: 0.0	
Activity a	at Report Ti	me: DRILL	ING								
Start	End	Hrs A	ctivity Desc	ription							
06:00	10:30			6830' TO 6978', ES, #1 PUMP, 1					OTOR RPM 6	7, 1600 PSI OF	F BOTTOM
10:30	11:00	0.5 SI	ERVICE RIG,	OPERATE CO	М.						
11:00	06:00			6978' TO 7525', F BOTTOM, #1							125
		N	O ACCIDENT	rs. Full crev	VS.						
		S	AFETY MEE	TINGS ON SLII	PS AND BO	OP OPERATIO	ON.				
		В	OP DRILL H	ELD ON DAYS,	WELL SE	CURED 67 SE	ECS.				
		F	UEL ON HAN	D 3515 GALS,	USED 179	6 GALS.					
		M	IUD WT 10.5-	+, VIS 35, LCM	0.						
		U.	PPER PRICE	RIVER TOP AT	7258'.						
		В	G GAS 170U,	CONN GAS 20	000U.						
				LOGGER DAYS							
				FLARES, BUST		ED.					
				LAST 24 HRS							
			OING OVER								
		В	OILER 20 HR								
11-28-20	007 Re	ported By	PE	ETE AYOTTE							
DailyCos	ts: Drilling	\$48,	,174	Con	pletion	\$7,612		Daily	Total	\$55,786	
Cum Cos	ts: Drilling	\$58	1,797	Con	pletion	\$10,262		Well	Total	\$592,059	
MD	8,002	TVD	8,002	Progress	477	Days	6	MW	10.6	Visc	38.0
Formatio	n:		<b>PBTD</b> : 0	.0		Perf:			PKR Dep	<b>oth:</b> 0.0	
Activity a	at Report Ti	me: DRILL	ING								
Start	End	Hrs A	ctivity Desc	ription							
06:00	08:30			7525' TO 7603', PUMP. 420 GPN		•	,	55 RPM, 67 N	MOTOR RPM	, 1800 PSI AT 1	25
08:30	09:00	0.5 SI	ERVICE RIG.								
09:00	15:00	6.0 D	RILL FROM	7603' TO 7726',	123' AT 2	0'/HR, SAME	PARAMET	ERS AS ABO	OVE.		
15:00	16:00	1.0 M	IIX AND PUM	IP PILL, BLOW	KELLY.						
16:00	19:30	3.5 T	RIP OUT, OP	ERATE COM O	N FIRST S	STAND.					

•		DR	ILL. BOP D ETING TOI PA	PICS: STEAM AUL WHITE Coi	DRILLING	PRICE RIVE	R MIDDLE	. NO ACCII N HAND 48 Dail	DENTS OR IN	CIDENTS. SAF	
12:00 11-30-20 DailyCos	007 Rets: Drilling	DR ME eported By \$50,66	ILL. BOP D ETING TOI PA	PRILL 71 SEC. PICS: STEAM AUL WHITE Con	DRILLING HEATERS, npletion	PRICE RIVE STEAM LINE \$0	R MIDDLE	. NO ACCII N HAND 48 Dail	DENTS OR ING 862 USED 180	CIDENTS, SAF 7. \$50,666	
12:00	007 Re	DR ME ported By	ILL. BOP D ETING TOI PA	PICS: STEAM	DRILLING HEATERS,	PRICE RIVE STEAM LINE	R MIDDLE	. NO ACCIL N HAND 48	DENTS OR IN 862 USED 180	CIDENTS. SAF 7.	
12:00		DR ME	ILL. BOP D ETING TOI	RILL 71 SEC. PICS: STEAM	DRILLING	PRICE RIVE	R MIDDLE	. NO ACCIE	DENTS OR IN	CIDENTS. SAF	
	00.00	DR	ILL. BOP D	RILL 71 SEC.	DRILLING	PRICE RIVE	R MIDDLE	. NO ACCIE	DENTS OR IN	CIDENTS. SAF	
11:30	06:00	18 U DB	II I E/0026								
** **	12:00	0.5 SEI	RVICE RIG.								
06:00	11:30	5.5 DR	ILL F/ 8002	TO 8036' 34' 6	FPH. WO	B 18 RPM 48.					
Start	End	Hrs Ac	tivity Desc	ription							
Activity a	at Report Ti	me: DRILLIN	1G								
Formatio	n:		<b>PBTD</b> : 0	.0		Perf:			PKR De <sub>l</sub>	<b>pth:</b> 0.0	
MD	8,737	TVD	8,737	Progress	735	Days	7	MW	10.6	Visc	35.0
Cum Cos	sts: Drilling	\$631,	830	Co	mpletion	\$10,262		Wel	l Total	\$642,092	
DailyCos	ts: Drilling	\$50,0	33	Co	mpletion	\$0		Dail	ly Total	\$50,033	
11-29-20	007 Re	ported By	PA	AUL WHITE/PI	ETE AYOT	ГЕ					
		ВО	ILER 21 HF	RS.							
		NO	LOSSES.								
				LOGGER DA							
				, CONN GAS 5		GAS 6000U.					
			JD WT. 10.6 ICE RIVER	, VIS 30. MIDDLE TOP	AT 8116'						
				ND 2169 GALS	, USED 134	46.					
				TINGS ON GR			COLD WEA	THER.			
		NO	ACCIDEN	TS. FULL CRE	WS.						
00.00	00.00			F BOTTOM, #1							
00:00	06:00				' 276' AT 4	6'/HR 15-18I	CWOR 50-	-60 RPM. 6	7 MOTOR RPI	M. 1900 PSI AT	125
21:00 23:30	23:30 00:00		•	BRIDGE AT 76 BOTTOM.	OU . I HE F	CEST OF THE	IKIP WAS	SLICK.			
20:30	21:00			RILL LINE 11			TOID WAS	CI ICK			
	20:30		IP IN TO 11			aa					
20:00	20:00	0.5 01			id iiiib, Ci	HANGE MOTO	NO THIE	113.			

Activity at Report Time: DRILLING

Start	End	Hrs	Activity Description
06:00	08:30	2.5	DRILL F/ 8737' TO 8755' 18' 7 FPH. WOB 25 RPM 50.
08:30	09:30	1.0	CIRC, MIX AND PUMP PILL. DROP SURVEY, BLOW DOWN KELLY. (MUD WT. 11.2)
09:30	19:00	9.5	TRIP FOR BIT #4. SET AND TEST COM. CHANGE MOTOR AND BIT. ADJUST BRAKES. FUNCTION TEST BOP. RIH, HOLE IN GOOD CONDITION.
19:00	23:30	4.5	DRILL F/ 8755 TO 8924' 169' 37 FPH. WOB 13 RPM 50.
23:30	00:00	0.5	SERVICE RIG. SET AND TEST COM FOR DRLG.
00:00	06:00	6.0	DRILL F/ 8924 TO 9150' 226' 38 FPH. WOB 14 RPM 50. MUD WT. 11.4 VIS 37. DRILLING LOWER PRICE RIVER. NO ACCIDENTS OR INCIDENTS. SAFETY MEETING TOPICS: SETTING COM, LAY DOWN PROC. HEAVY LIFTING. SET AND TEST COM. BOP DRILL, CHECK FLOOR VALVE AND INSIDE BOP. FUEL ON HAND 3291 USED 1571.

Property: 056830

12-01-200	)7 Re	eported By	PAU	IL WHITE								
DailyCosts	s: Drilling	\$45,917	,	Com	pletion	\$0		Daily	y Total	\$45,917		
Cum Costs	s: Drilling	\$728,41	14	Com	pletion	\$10,262		Well	Total	\$738,676		
MD	9,600	TVD	9,600	Progress	450	Days	9	MW	11.4	Visc	37.0	
Formation	ı <b>:</b>	I	<b>PBTD</b> : 0.0			Perf:			PKR De	<b>pth:</b> 0.0		
Activity at	Report Ti	me: LD DP										
Start	End	Hrs Activ	vity Descri	iption								
06:00	12:30	6.5 DRIL	L F/ 9150 T	O 9365' 215' 3	3 FPH. W	OB 15 RPM.						
12:30	13:00	0.5 SERV	/ICE RIG.									
13:00	02:30	13.5 DRIL	13.5 DRILL F/ 9365 TO 9600' TD, 235' 17 FPH. WOB 15/25, RPM 45/50. GPM 420. REACHED TD AT 02:30 HRS, 12/1/07.									
			1.0 10 STAND WIPER TRIP, HOLE IN GOOD CONDITION. SNOW STILL FALLING. APPROX 8" ON GROUND.									
02:30	03:30									( 8" ON GROU	ND.	
03:30	05:00					ORD LAY DOV						
05:00	06:00	INCI NOT	1.0 CASING POINT @ 05:00 HRS 12/1/07. POH LAY DOWN DRILL PIPE. MUD WT 11.6 VIS 37. NO ACCIDENTS OR INCIDENTS. SAFETY MEETING TOPICS: LAY DOWN OPS, COLD WEATHER OPS. RESET COM FOR TRIP. NOTIFIED JAMIE SPARGER W/ VERNAL BLM OF INTENTION TO RUN CSG AND CEMENT. CALL MADE 11/30/07 AT 10:00 HRS. FULL CREW. FUEL ON HAND 3366 RECEIVED 1500 USED 1625.									
12-02-200	)7 Re	eported By	PAU	IL WHITE								
DailyCosts	s: Drilling	\$35,144	1	Con	pletion	\$149,743		Daily	y Total	\$184,887		
Cum Costs	s: Drilling	\$763,55	58	Com	pletion	\$160,005		Well	Total	\$923,563		
MD	9,600	TVD	9,600	Progress	0	Days	10	MW	0.0	Visc	0.0	
Formation	:	I	<b>PBTD</b> : 0.0			Perf:			PKR De	<b>pth:</b> 0.0		
Activity at	Report Ti	me: RDRT/WO	COMPLET	TON								
Start	End	Hrs Activ	vity Descri	ption								
06:00	13:00	7.0 LAY	DOWN DR	ILL PIPE, ANI	D BHA. BI	REAK KELLY,	PULL WE	AR BUSHIN	1G.			
13:00	14:00	1.0 <b>RIG</b> 1	UP WEATH	ERFORD CAS	SING TOO	LS, HOLD PJS	M W/ CRI	EWS.				
14:00	20:00					rs and 1 sho nto positio			ER. TAG BO	ITOM AND IN	STALL	
20:00	21:30		CULATE CA LUMBERGI		IG DOWN	WEATHERFO	RD AND	RIG UP SCH	LUMBERGE	R. HOLD PJSM	I W/	
21:30	00:00	WAT: SLUI 3,500	ER, 159 BBI RRY, 50/50 I PSI, CHEC	LS LEAD SLU POZ "G" SLUI CKED FLOATS	JRRY: 35/6 RRY WT. 1 S OK. LAN	55 POZ G, SLU 4.1 PPG. 1580	RRY WT. SX), DISP 4.5" 11.6	13 PPG. (510 LACED W/ # N 80 CASI	SX). FOLLO 148 BBLS. W	CHEM WASH, DWED W/363 B ATER. BUMPE DW/DAVIS LY	BLS. TAIL D PLUG W/	
		A TO	TAL OF 25.	SHOE AT 958	35' FLOAT	*	9539'. MA	RKER JT AT		HIRD JOINT AI 1343'. TESTED		
00:00	01:00	1.0 NIPP	LE DOWN	BOP'S, CLEA	N MUD P	ITS.						
01:00	06:00			PARE FOR T								
		WEA	THERFORI	D, SCHLUMB	ERGER. F	ACCIDENTS ( ULL CREW. R UEL AND 6 JT	IG RELEA	ASED, FINAI	REPORT. F	UEL ON HAND	2169	

06:00

#### 18.0 RIG RELEASED AT 01:00 HRS, 12/2/07.

#### CASING POINT COST \$763,559

12-11-20	007 Re	eported By	Si	EARLE							
DailyCos	ts: Drilling	\$0		Cor	mpletion	\$44,976		Daily	Total	\$44,976	
Cum Cos	sts: Drilling	\$763,5	558	Cor	mpletion	\$204,981		Well '	Total	\$968,539	
MD	9,600	TVD	9,600	Progress	0	Days	11	MW	0.0	Visc	0.0
Formatio	n:		<b>PBTD</b> : 9	539.0		Perf:			PKR De	<b>pth:</b> 0.0	
Activity a	at Report Ti	me: PREP FO	R FRACS								
Start	End	Hrs Act	ivity Desc	ription							
06:00	06:00		RU SCHLU SCHLUME		OG WITH F	RST/CBL/CCL/V	'DL/GR F	ROM PBTD	ro 650'. Est	CEMENT TO	? @ 890'.
12-15-20	007 Re	ported By	T	ORR MCCURE	ΟY						
DailyCos	ts: Drilling	\$0		Cor	mpletion	\$1,780		Daily	Total	\$1,780	
Cum Cos	ts: Drilling	\$763,5	558	Con	mpletion	\$206,761		Well '	Total	\$970,319	
MD	9,600	TVD	9,600	Progress	0	Days	12	MW	0.0	Visc	0.0
Formatio	n:		<b>PBTD</b> : 9	539.0		Perf:			PKR De	<b>pth:</b> 0.0	
Activity a	at Report Ti	me: WO COM	IPLETION								
Start	End	Hrs Act	ivity Desc	ription							
08:00	09:00	1.0 NU	10M FRAC	TREE. PRESS	URE TEST	ED FRAC TREI	E & CASI	NG TO 6500	PSIG. WO C	OMPLETION.	
12-18-20	007 Re	ported By	Т	ORR MCCURE	PΥ						
DailyCos	ts: Drilling	\$0		Cor	mpletion	\$1,755		Daily	Total	\$1,755	
Cum Cos	ts: Drilling	\$763,5	558	Cor	mpletion	\$208,516		Well	<b>Total</b>	\$972,074	
MD	9,600	TVD	9,600	Progress	0	Days	13	MW	0.0	Visc	0.0
Formatio	n: MESAVE	RDE	<b>PBTD</b> : 9	539.0		<b>Perf</b> : 8260'-	-8408'		PKR De	<b>pth:</b> 0.0	
Activity a	at Report Ti	me: FRAC MI	PR/UPR								
Start	End	Hrs Act	ivity Desc	ription				•			
06:00	18:30	9204 PHA YF1 5132 RUV 8887 FRA W/1	4'-05', 921 ASING. RD 16ST+ PAI 2 PSIG. ATI VL. SET 10 7'-88', 894 AC DOWN (	3'-14', 9225'- WL. RU SCHL D, 39225 GAL Y R 46.3 BPM. IS OK CFP AT 902. 8'-50', 8963'- CASING WITH 40 SAND @ 1-	26', 9231'- UMBERGE YF116ST+ V SIP 2850 PS 5'. PERFOI 64', 9002'- H 165 GAL	ED LPR FROM 9 32', 9278'-79', ' ER. FRAC DOWN W/93300# 20/40 IG. RD SCHLUI  RATED LPR FRO 03' & 9010'-12' GYPTRON T-10 TP 6392 PSIG. M	9327'-28 N CASIN SAND @ MBERGE OM 8757' @ 3 SPF 06, 5181 (	, 9343'-44', 5 G WITH 165 0 1-4 PPG. M'R. -58', 8788'-8 & 120° PHAS	9360'-61' & GAL GYPTI TP 6230 PSI 39', 8819'-20 SING. RDWI T+ PAD, 427	9365'-66' @ 3 RON T-106, 41 G. MTR 50.4 BF 0', 8860'-61', 8 L. RU SCHLUN 83 GAL YF1168	SPF & 120° 61 GAL PM. ATP 867'-68', IBERGER. 5T+

RUWL. SET 10K CFP AT 8700'. PERFORATED MPR FROM 8456'-57', 8482'-83', 8495'-96', 8509'-10', 8527'-28', 8545'-46', 8570'-71', 8592'-93', 8604'-05', 8633'-34', 8672'-73' & 8679'-80' @ 3 SPF & 120° PHASING. RDWL. RU SCHLUMBERGER. FRAC DOWN CASING WITH 165 GAL GYPTRON T-106, 7265 GAL YF116ST+ PAD, 80599 GAL YF116ST+ W/223100# 20/40 SAND @ 1-5 PPG. MTP 6331 PSIG. MTR 50.1 BPM. ATP 4935 PSIG. ATR 47.9 BPM. ISIP 3120 PSIG. RD SCHLUMBERGER.

RUWL. SET 10K CFP AT 8425'. PERFORATED MPR FROM 8260'-61', 8270'-71', 8284'-85', 8306'-07', 8324'-25', 8332'-33', 8339'-40', 8349'-50', 8358'-59', 8368'-69', 8376'-77' & 8408'-09' @ 3 SPF & 120° PHASING. RDWL. RU SCHLUMBERGER. FRAC DOWN CASING WITH 165 GAL GYPTRON T-106, 5131 GAL YF116ST+ PAD, 48503 GAL YF116ST+ W/128000# 20/40 SAND @ 1-5 PPG. MTP 6123 PSIG. MTR 50.1 BPM. ATP 4613 PSIG. ATR 45.5 BPM. ISIP 2640 PSIG. RD SCHLUMBERGER. SDFN.

12-19-2007 Reported By			Ву ТО	TORR MCCURDY							
DailyCosts: D	rilling	\$0	0	Con	pletion	\$25,592		Daily	Total	\$25,592	
Cum Costs: I	rilling	\$	763,558	Con	pletion	\$234,108		Well 7	<b>Total</b>	\$997,666	
MD	9,600	TVD	9,600	Progress	0	Days	14	MW	0.0	Visc	0.0
Formation: MESAVERDE PBTD			<b>PBTD</b> : 9	539.0		Perf: 7452'-	8408'		PKR Dep	oth: 0.0	

Activity at Report Time: FRAC UPR / MIRUSU

Start	End	Hrs	Activity	Description

06:00 18:30 12.5 SICP 1980 PSIG. RUWL SET 10K CFP AT 8240'. PERFORATE MPR FROM 8075'-76', 8089'-90', 8096'-97', 8114'-15', 8121'-22', 8145'-46', 8151'-52', 8165'-66', 8176'-77', 8212'-13', 8220'-21', 8226'-27' @ 3 SPF @ 120° PHASING. RDWL. RU SCHLUMBERGER, FRAC DOWN CASING WITH 165 GAL GYPTRON T-106, 5188 GAL YF116ST+ PAD, 51638 GAL YF116ST+ WITH 127800 # 20/40 SAND @ 1-5 PPG. MTP 6112 PSIG. MTR 50.2 BPM. ATP 4086 PSIG, ATR 46.6 BPM. ISIP 2440 PSIG. RD SCHLUMBERGER.

RUWL SET 10K CFP AT 8055'. PERFORATE MPR/UPR FROM 7905'-06', 7934'-35', 7939'-40', 7954'-55', 7968'-69', 7979'-80', 7998'-99', 8001'-02', 8006'-07', 8022'-23', 8032'-33', 8036'-37' @ 3 SPF @ 120° PHASING. RDWL. RU SCHLUMBERGER, FRAC DOWN CASING WITH 165 GAL GYPTRON T-106, 4164 GAL YF116ST+ PAD, 36323 GAL YF116ST+ WITH 90400 # 20/40 SAND @ 1-5 PPG. MTP 6154 PSIG. MTR 50.1 BPM. ATP 4936 PSIG. ATR 46.6 BPM. ISIP 2260 PSIG. RD SCHLUMBERGER.

RUWL SET 10K CFP AT 7870'. PERFORATE UPR FROM 7703'-04', 7710'-11', 7725'-26', 7748'-49', 7757'-58', 7770'-71', 7788'-89', 7798'-99', 7806'-07', 7825'-26', 7834'-35', 7844'-45' @ 3 SPF @ 120° PHASING. RDWL. RU SCHLUMBERGER, FRAC DOWN CASING WITH 165 GAL GYPTRON T-106, 5179 GAL YF116ST+ PAD, 51311 GAL YF116ST+ WITH 141600 # 20/40 SAND @ 1-5 PPG. MTP 6228 PSIG. MTR 50.1 BPM. ATP 4575 PSIG. ATR 47.9 BPM. ISIP 2580 PSIG. RD SCHLUMBERGER.

RUWL SET 10K CFP AT 7625'. PERFORATE UPR FROM 7452'-53', 7467'-68', 7478'-79', 7499'-500', 7507'-08', 7513'-14', 7537'-38', 7559'-60', 7567'-68', 7582'-83', 7591'-92', 7604'-05' @ 3 SPF @ 120° PHASING. RDWL. RU SCHLUMBERGER, FRAC DOWN CASING WITH 165 GAL GYPTRON T-106, 4166 GAL YF116ST+ PAD, 33718 GAL YF116ST+ WITH 82700 # 20/40 SAND @ 1-5 PPG. MTP 6662 PSIG. MTR 50.1 BPM. ATP 4701 PSIG. ATR 44.3 BPM. ISIP 1760 PSIG. RD SCHLUMBERGER. SWIFN.

12-20-2007	Re	ported By		TORR MCCURD	Y						
DailyCosts: Drilling \$0			Completion		\$355,268		Daily	Total	\$355,268		
Cum Costs: Drilling		\$763	,558	Completion		\$589,376		Well Total		\$1,352,935	
MD	9,600	TVD	9,600	Progress	0	Days	15	$\mathbf{MW}$	0.0	Visc	0.0
Formation: MESAVERDE PRTD			PRTD	9539 0		Perf : 7264'-	.8408'		PKR Dei	oth : 0.0	

Activity at Report Time: CLEAN OUT AFTER FRAC

Start End **Activity Description** 

17:00 06:00

11.0 SICP 1580 PSIG. RUWL SET 10K CFP AT 7426'. PERFORATED UPR FROM 7264'-65', 7274'-75', 7278'-79', 7353'-54', 7358'-59', 7364'-65', 7374'-75', 7379'-80', 7386'-87', 7396'-97', 7403'-04' & 7410'-11' @ 3 SPF & 120° PHASING. RDWL. RU SCHLUMBERGER. FRAC DOWN CASING WITH 165 GAL GYPTRON T-106, 5215 GAL YF116ST+ PAD, 55685 GAL YF116ST+ W/148400# 20/40 SAND @ 1-5 PPG. MTP 5809 PSIG. MTR 50.1 BPM, ATP 4034 PSIG. ATR 48 BPM. ISIP 2200 PSIG. RD SCHLUMBERGER.

RUWL. SET 10K CBP AT 7131'. BLED OFF PRESSURE. RDWL. MIRUSU. ND TREE. NU BOP. SDFN.

12-22-2007 Reported By

HISLOP

DailyCost	ts: Drilling	\$0		Cor	npletion	\$66,081		Dail	y Total	\$66,081	
Cum Cos	ts: Drilling	\$763,5	558	Cor	npletion	\$655,457		Well	Total	\$1,419,016	
MD	9,600	TVD	9,600	Progress	0	Days	17	MW	0.0	Visc	0.0
Formation	n: MESAVE	RDE	<b>PBTD</b> : 95	539.0		Perf: 7264'-	-8408'		PKR De	<b>pth</b> : 0.0	
Activity a	t Report Ti	me: FLOW TE	EST								
Start	End	Hrs Act	ivity Descr	ription							
06:00	06:00	9025		EANED OUT T						5', 8240', 8425', E. PUMPED OF	
		FLO	WED 14 HI	RS. 16/64" CH	OKE. FTP	2000 PSIG. CP 2	2250 PSIC	G. 36 BFPH. I	RECOVERED	578 BLW. 1112	2 BLWTR.
		TUE	BING DETA	IL LENGTH	I						
		PUN	1P OFF BIT	SUB .91'							
				N-80 TBG	32.43'						
		XN	NIPPLE 1	.30'							
		225	JTS 2-3/8" 4	4.7# N-80 TB	3	7823.00'					
		BEL	OW KB	13.00'							
		LAN	IDED @	7870.64' KB	<u> </u>						
12-23-20	07 Re	ported By	н	SLOP							
DailyCost	ts: Drilling	\$0		Con	npletion	\$4,380		Daily	y Total	\$4,380	
Cum Cost	ts: Drilling	\$763,5	58	Con	npletion	\$659,837		Well	Total	\$1,423,396	
MD	9,600	TVD	9,600	Progress	0	Days	18	MW	0.0	Visc	0.0
Formation	n: MESAVE	RDE	<b>PBTD</b> : 95	39.0		<b>Perf</b> : 7264'-	-8408'		PKR De	<b>pth:</b> 0.0	
Activity a	t Report Tir	ne: FLOW TE	EST								
Start	End	Hrs Act	ivity Descr	ription							
06:00	06:00	24.0 FLO	WED 24 HF	RS. 16/64" CHO	OKE. FTP	2150 PSIG. CP 2	750 PSIC	6. 32 BFPH. I	RECOVERED	860 BLW. 1026	2 BLWTR.
12-24-20	07 Re	ported By	HIS	SLOP							
DailyCost	s: Drilling	\$0		Con	npletion	\$2,475		Daily	y Total	\$2,475	
Cum Cost	ts: Drilling	\$763,5	58	Con	apletion	\$662,312		Well	Total	\$1,425,871	
MD	9,600	TVD	9,600	Progress	0	Days	19	MW	0.0	Visc	0.0
Formation	n: MESAVE	RDE	<b>PBTD</b> : 95	39.0		Perf : 7264'-	-8408'		PKR De	oth: 0.0	
Activity a	t Report Tir	ne: WO FACI	LITIES								
Start	End		ivity Descr	ription							
06:00	06:00		WED 24 HF VO FACILIT		OKE. FTP ?	2000 PSIG. CP 3	100 PSIC	6. 12 BFPH. I	RECOVERED	668 BLW. 9594	BLWTR.
		CINI	AT COMBI	ETION DATE:	12/22/07						
12-25-20	07 Da	ported By		RN	14143101						
		\$0	III.		npletion	\$2,475		Dott.	y Total	\$2,475	
	s: Drilling ts: Drilling	\$763,5	58		npletion	\$664,787		-	y Iotal Total	\$1,428,346	
	_				_		20				0.0
MD	9,600	TVD	9,600	Progress	0	Days	20	$\mathbf{MW}$	0.0	Visc	0.0

Formation: MESAVERDE

**PBTD:** 9539.0

Perf: 8260'-9366'

PKR Depth: 0.0

Activity at Report Time: FRAC MPR/UPR

Start End Hrs Activity Description

06:00

06:00

24.0 RU CUTTERS WIRELINE. PERFORATED LPR FROM 9064'-65', 9077'-78', 9090'-91', 9111'-12', 9122'-23', 9204'-05', 9213'-14', 9225'-26', 9231'-32', 9278'-79', 9327'-28', 9343'-44', 9360'-61' & 9365'-66' @ 3 SPF & 120° PHASING. RDWL. RU SCHLUMBERGER. FRAC DOWN CASING WITH 165 GAL GYPTRON T-106, 4161 GAL YF116ST+ PAD, 39225 GAL YF116ST+ W/93300# 20/40 SAND @ 1-4 PPG. MTP 6230 PSIG. MTR 50.4 BPM. ATP 5132 PSIG. ATR 46.3 BPM. ISIP 2850 PSIG. RD SCHLUMBERGER.

RUWL. SET 10K CFP AT 9025'. PERFORATED LPR FROM 8757'-58', 8788'-89', 8819'-20', 8860'-61', 8867'-68', 8887'-88', 8948'-50', 8963'-64', 9002'-03' & 9010'-12' @ 3 SPF & 120° PHASING. RDWL. RU SCHLUMBERGER. FRAC DOWN CASING WITH 165 GAL GYPTRON T-106, 5181 GAL YF116ST+ PAD, 42783 GAL YF116ST+ W/102700# 20/40 SAND @ 1-4 PPG. MTP 6392 PSIG. MTR 50 BPM. ATP 5226 PSIG. ATR 46.8 BPM. ISIP 3150 PSIG. RD SCHLUMBERGER.

RUWL. SET 10K CFP AT 8700'. PERFORATED MPR FROM 8456'-57', 8482'-83', 8495'-96', 8509'-10', 8527'-28', 8545'-46', 8570'-71', 8592'-93', 8604'-05', 8633'-34', 8672'-73' & 8679'-80' @ 3 SPF & 120° PHASING. RDWL. RU SCHLUMBERGER. FRAC DOWN CASING WITH 165 GAL GYPTRON T-106, 7265 GAL YF116ST+ PAD, 80599 GAL YF116ST+ W/223100# 20/40 SAND @ 1-5 PPG. MTP 6331 PSIG. MTR 50.1 BPM. ATP 4935 PSIG. ATR 47.9 BPM. ISIP 3120 PSIG. RD SCHLUMBERGER.

RUWL. SET 10K CFP AT 8425'. PERFORATED MPR FROM 8260'-61', 8270'-71', 8284'-85', 8306'-07', 8324'-25', 8332'-33', 8339'-40', 8349'-50', 8358'-59', 8368'-69', 8376'-77' & 8408'-09' @ 3 SPF & 120° PHASING. RDWL. RU SCHLUMBERGER. FRAC DOWN CASING WITH 165 GAL GYPTRON T-106, 5131 GAL YF116ST+ PAD, 48503 GAL YF116ST+ W/128000# 20/40 SAND @ 1-5 PPG. MTP 6123 PSIG. MTR 50.1 BPM. ATP 4613 PSIG. ATR 45.5 BPM. ISIP 2640 PSIG. RD SCHLUMBERGER. SDFN.

Form 3160-4

# **UNITED STATES**

FORM APPROVED

								_							
Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MC	F	Water BBL	Oil Gr Corr. I		Gas Gravi	ty	Product	ion Method		
	tion - Interva	<u> </u>													
Size 10/64"	Flwg. 2700 SI		Rate	BBL 42	MC	779	BBL 142	Ratio			PGW				
Choke	Tbg. Press.	Csg.	24 Hr.	Oil	Gas		0 142.0					<u></u>	FLOV	io rri	JIVI VVELL
Produced 01/21/2008	Date 01/28/2008	Tested 24		BBL 42.0	MC		BBL	Corr.		Gravi	ty			IS FRO	OM WELL
Date First	ion - Interval	Hours	Test	Oil	Gas		Water	Oil Gr	avity	Gas	-	Product	ion Method		
28 Dunder			109 53,799	GALS GE	LLED V	VATER &	128,000# 2	20/40 S	AND						
			80 88,029												
			12 48,129												
	Depth Interva		366 43,551	GALS GE	LLED	VATER &	93,300# 20			Type of	viaienai				
	nacture, Treat	-	nent Squeeze	e, Etc.				Λ.	nount one	Type of 1	Material				
D) 27 Asid F	T :			2 T/t :				_	8260 T	O 8409			3		
C)										O 8680		$\Box$	3		
B)	MLOAVE			,,,,,,						O 9012			3	-	
A)	ormation MESAVE	BDF	Тор	7264	Botto	m 9366	Per	torated	Interval 9064 T	O 9366	Size	+-!	No. Holes 3		Perf. Status
	ng Intervals	· F		— г			. Perforation			<del></del> -1		1 .			D 4.6
2.375		7871													
Size	Depth Set (N	/(D) Pa	acker Depth	(MD)	Size	Dep	th Set (MD	) P	acker De	oth (MD)	Size	De	epth Set (MI	D)[	Packer Depth (MD)
24. Tubing	Record			<u> </u>			1						L		l
	<u> </u>						<del> </del>								
7.875		500 N-80	11.6	1	ō	958	_	_	****	209					
7.875 12.250		00 P-110 625 J-55	11.6 36.0	<del>1</del> —	0	223				95	1				<del></del>
Hole Size	Size/C		Wt. (#/ft.)	(MD) (MD) Depth Type of Cement (B)				Slurry (BF		Cement 7	Гор*	Amount Pulled			
23. Casing a	nd Liner Rec	ord (Repo	rt all strings	s set in w	ell)				1		<u> </u>				
21. Type F RST/C	Electric & Oth BL/CCL/ <b>VID</b>	ner Mechai ≝GR	nical Logs R	tun (Subr	nit copy	of each)	)			Was	well core DST run ctional Su	?	🔯 No	🗖 Ye	s (Submit analysis) s (Submit analysis) s (Submit analysis)
18. Total I		MD TVD	9600					MD TVD	95		<u></u>		idge Plug So		MD TVD
10/03/2	10/03/2007											48	32 GL	· · · · · · · · · · · · · · · · · · ·	
At total		/INW 1585	5FNL 240F\	WL 40.0 ate T.D.					Complete	ed			JINTÁH Elevations (	DF. K	UT B, RT, GL)*
	prod interval	_							109.434	165 W Loi	1	12.	County or P		13. State
At surf			NL 240FWL			•			100 10			11.	Sec., T., R.,	M., or	Block and Survey 9S R22E Mer SLB
	n of Well (Re	•	•				-		)*	_		10.	Field and Po	ool, or BUTT	Exploratory ES/MESAVERDE
	600 17TH DENVER	, CO 802	202				Ph: 3	303-82	4-5526	e area cod	e)	<u> </u>	.PI Well No		43-047-38085
	REŜOURCE						/ARY A. Ν ⊉eogresoι	urces.c	om			(		VELLS	ell No. S UNIT 1041-22
		Othe	er									<u> </u>	CHAPITA V	VELL:	
la. Type of b. Type of	of Completion	] Oil Well 1         N	<b>⊠</b> Gas Iew Well	Wen Wor	Dry k Over		Other Deepen	Plug	g Back	☐ Diff.	Resvr.	<u> </u>			or Tribe Name
1- 7	ew.u	01 7/-11	<b>9</b> C	W-11			Other		·-·			$\leftarrow$	JTU0284A		a Taiba Nama
	WELL	COMPL	ETION (					PORT	AND I	_OG			ease Serial		
(August 2007)	)		DEPAF BUREA				IERIOR SEMENT								1004-0137 ly 31, 2010

(See Instructions and spaces for additional data on reverse side)
ELECTRONIC SUBMISSION #58679 VERIFIED BY THE BLM WELL INFORMATION SYSTEM
\*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUB

RECEIVED

	uction - Interv		77.	lo:	lo.	Iw.,	Tong :	<u> </u>		Davidantian Mark 1		
Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Grav	ity	Production Method	_	
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well	Status			
28c. Produ	uction - Interv	al D			_							
Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Grav	ity			
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well	Status			
29. Dispos	sition of Gas(S	old, used fo	or fuel, vent	ed, etc.)	<u> </u>	•				<del></del>		
	nary of Porous	Zones (Incl	ude Aquife	rs):					31. For	mation (Log) Markers		
tests, i	all important z including deptl coveries.						all drill-stem Shut-in pressures					
	Formation		Тор	Bottom		Description	ns, Contents, etc.			Name	Top Meas. Depth	
32. Additi Pleas inform	onal remarks (e see the attanation.	include plu ached shee	et for detai	led perforat		ditional form	nation marker	GREEN RIVER MAHOGANY 2330 WASATCH CHAPITA WELLS 5333 BUCK CANYON 603 PRICE RIVER 7251 MIDDLE PRICE RIVER 8910 LOWER PRICE RIVER 8910				
5. Sur		verification	6	Report	7	DST Rep						
34. I hereb	by certify that t	he foregoir	_	ronic Submi	ission #586	79 Verified k	ect as determined by the BLM We INC., sent to the	ll Inform	ation Sys	records (see attached instruction tem.	ons):	
Name	(please print)	MARY A. I	MAESTAS				Title RE	<u>GULAT</u>	ORY ASS	SISTANT		
Signat	ure	(Petupnic	Submissi	Mai	fa		Date <u>02</u>	/19/2008	3			
							any person know to any matter wi			to make to any department or a	gency	

#### Chapita Wells Unit 1041-22 - ADDITIONAL REMARKS (CONTINUED):

#### 26. PERFORATION RECORD

8075-8227	3/spf
7905-8037	3/spf
7703-7845	3/spf
7452-7605	3/spf
7264-7411	3/spf

#### 27. ACID, FRACTURE TREATMENT, CEMENT SQUEEZE, ETC.

<b>,</b>	
8075-8227	56,991 GALS GELLED WATER & 127,800# 20/40 SAND
7905-8037	40,652 GALS GELLED WATER & 90,400# 20/40 SAND
7703-7845	56,655 GALS GELLED WATER & 141,600# 20/40 SAND
7452-7605	38,049 GALS GELLED WATER & 82,700# 20/40 SAND
7264-7411	61,065 GALS GELLED WATER & 148,400# 20/40 SAND

Perforated the Lower Price River from 9064-65', 9077-78', 9090-91', 9111-12', 9122-23', 9204-05', 9213-14', 9225-26', 9231-32', 9278-79', 9327-28', 9343-44', 9360-61' & 9365-66' w/ 3 spf.

Perforated the Lower Price River from 8757-58', 8788-89', 8819-20', 8860-61', 8867-68', 8887-88', 8948-50', 8963-64', 9002-03' & 9010-12' w/ 3 spf.

Perforated the Middle Price River from 8456-57', 8482-83', 8495-96', 8509-10', 8527-28', 8545-46', 8570-71', 8592-93', 8604-05', 8633-34', 8672-73' & 8679-80' w/ 3 spf.

Perforated the Middle Price River from 8260-61', 8270-71', 8284-85', 8306-07', 8324-25', 8332-33', 8339-40', 8349-50', 8358-59', 8368-69', 8376-77' & 8408-09' w/ 3 spf.

Perforated the Middle Price River from 8075-76', 8089-90', 8096-97', 8114-15', 8121-22', 8145-46', 8151-52', 8165-66', 8176-77', 8212-13', 8220-21' & 8226-27' w/ 3 spf.

Perforated the Middle/Upper Price River from 7905-06', 7934-35', 7939-40', 7954-55', 7968-69', 7979-80', 7998-99', 8001-02', 8006-07', 8022-23', 8032-33' & 8036-37' w/ 3 spf.

Perforated the Upper Price River from 7703-04', 7710-11', 7725-26', 7748-49', 7757-58', 7770-71', 7788-89', 7798-99', 7806-07', 7825-26', 7834-35' & 7844-45' w/ 3 spf.

Perforated the Upper Price River from 7452-53', 7467-68', 7478-79', 7499-7500', 7507-08', 7513-14', 7537-38', 7559-60', 7567-68', 7582-83', 7591-92' & 7604-05' w/ 3 spf.

Perforated the Upper Price River from 7264-65', 7274-75', 7278-79', 7353-54', 7358-59', 7364-65', 7374-75', 7379-80', 7386-87', 7396-97', 7403-04' & 7410-11' w/ 3 spf.

#### **52. FORMATION (LOG) MARKERS:**

SEGO	9405	

# STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS AND MINING

#### REPORT OF WATER ENCOUNTERED DURING DRILLING

	4304738085		<u>,</u>		<del></del>	
		ction 22 T	ownship <mark>9S Range 22E</mark>	E Cou	inty UINTAH	
		Juon <u></u> 1	ownship range	000		
Well operator		40				
Address:	1060 E HWY				(405) 704 0444	
	city VERNAL		state UT zip 84078	Ph	none: (435) /81-9111	
Drilling contra	ctor: PRO PET	RO				
Address:	PO BOX 827	· · · · · · · · · · · · · · · · · · ·				
	city VERNAL		state UT zip 84078		Phone: (435) 789-4729	
Water encoun	tered (attach ad	Iditional pages	s as needed):			
	DEP	 TH	VOLUME		QUALITY	
	FROM	то	(FLOW RATE OR HEAD	)	(FRESH OR SALTY)	
	1,470	1,480	NO FLOW		NOT KNOWN	
					<u> </u>	
			_		_	
Formation top (Top to Botton	n)		2		3	
	4		5			
	7		8			
	10		11		12	